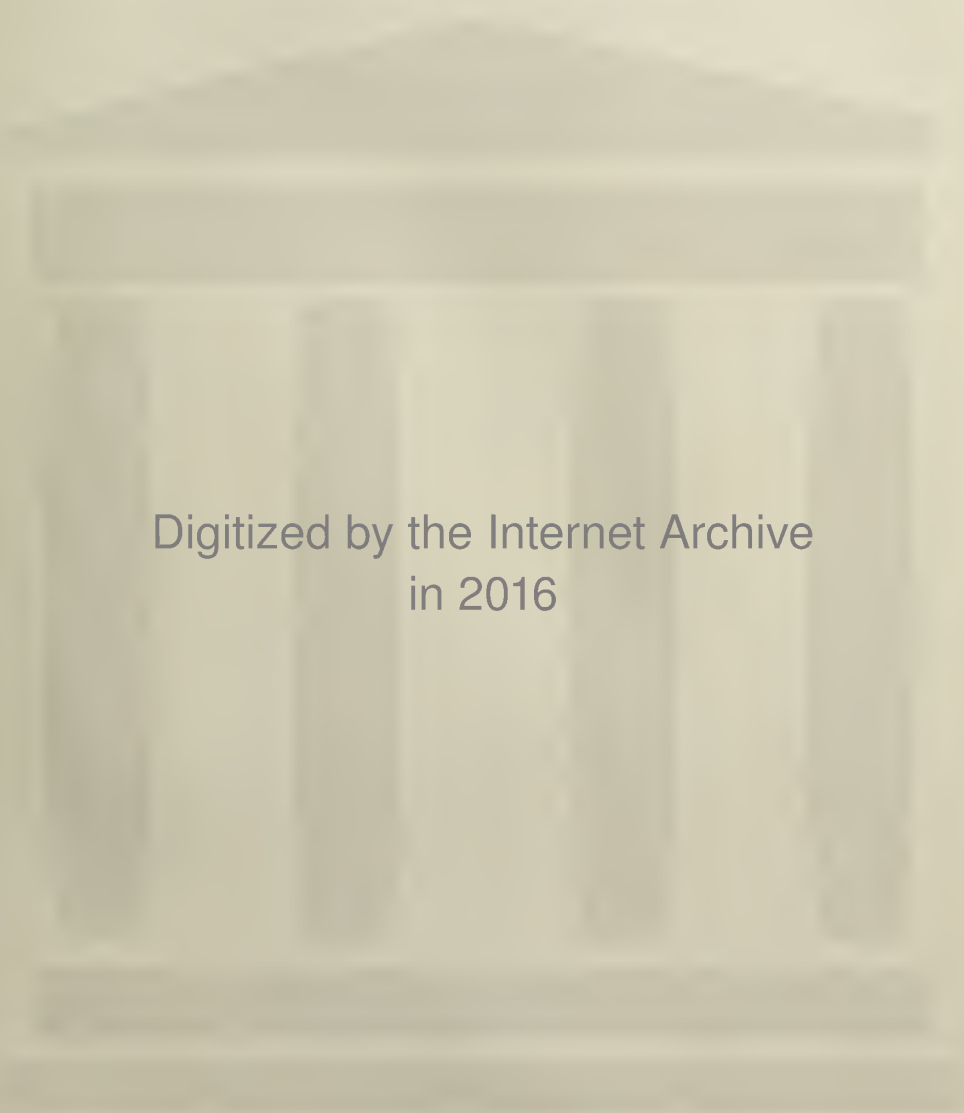


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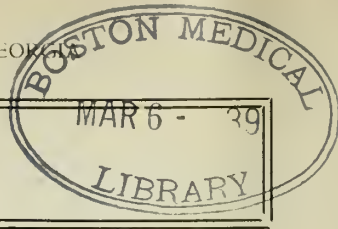
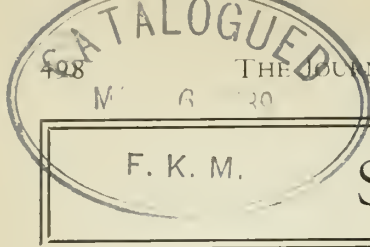
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| Relief of Causalgic-like Pain in the Isolated Extremity by Sympathectomy—Report of Case. July 1938..... | 253 | The Walker-Catoosa County Medical Society met in their regular monthly meeting October 3, 1938, at the office of Dr. Fred H. Simonton in Chickamauga, Ga. The following physicians were present: Drs. Hale, Charles Stevenson, Webb, Kitchens, Simonton, Murphy, and Shepard. Dr. William Stevenson of Chattanooga was a guest. | |
| SMITH, J. ALLEN, Macon | | In the absence of the president, Dr. S. B. Kitchens called the meeting to order. The minutes of the September meeting were read and approved by the Society. | |
| Gradenigo Symptom Complex—Report of Case. Nov. 1938..... | 437 | The new business was as follows: The Society discussed the methods employed whereby free arsenicals could be obtained for patients not financially able to pay the full fee. The opinion of the Society at the end of the discussion apparently was that it seemed to be too many records which require the patient's name, then too, the drugs were to be given to the physicians in a "piece meal" manner. | |
| STOREY, W. EDWARD, Columbus | | The Society then turned its attention to a proposal made by the Farm Security Agent whereby 100 or more Rehabilitation Farm Families would deposit a sum of money to assure the family physician of its choice and to insure the family physician his regular fee. As this plan had not been thoroughly worked out the Secretary was instructed to find out more details and write the Medical Association of Georgia and invite their suggestions as to its acceptability. As there was no other new business, Dr. William Stevenson was presented. Dr. Stevenson read a paper on Raynaud's disease and the use of the Pavex treatment. Dr. Kitchens brought a patient with a classic case of Raynaud's disease, and at the conclusion of Dr. Stevenson's paper he demonstrated the technic of the method of applying | |
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heat therapy through the Pavex machine. Dr. Stevenson reported most favorable results are being obtained in all diseases where peripheral vaso-constrictions were encountered.

The interest in Dr. Stevenson's paper was shown by the enthusiasm of the discussion that followed.

This concluded our business session. Dr. Charles Stevenson invited the Society to meet with him in November.

RICHARD C. SHEPARD, M.D.,
Secretary-Treasurer

MINUTES OF THE SECOND DISTRICT MEDICAL SOCIETY MEETING

The Second District Medical Society met at Bainbridge, October 14. Dr. J. C. Keaton, Albany, presided.

Motion carried to collect dues at the fall meeting. Minutes of previous meeting were read and adopted.

Report of Councilor, Dr. J. A. Redfearn, showed that according to a statement by Dr. Jas. E. Paullin upon his return from a health conference in Washington that it would cost \$1,000,000 annually to render adequate medical care to the indigent sick in eight Southwest Georgia counties. Dr. Abercrombie estimated the cost of such care of the indigent in Georgia would be \$30,000,000 annually, and that 60 per cent of the funds would probably be appropriated by the United States Government.

Dr. J. W. Mobley, Pelham, read a paper on *Hookworm Disease*; Dr. Ernest F. Wahl, Thomasville, and Dr. M. A. Fort, Bainbridge, led the discussion.

Dr. T. C. Davison, Atlanta, read a paper on *Thyroid*; Dr. H. M. Moore, Dr. Ernest F. Wahl and Dr. Chas. H. Watt, all of Thomasville, and Dr. Hal M. Davison, Atlanta, led the discussion.

Dr. Earl H. Floyd, Atlanta, read a paper by Dr. Earl Floyd and Dr. Jas. L. Pittman, on *Conservative Renal Surgery*; Dr. Rudolph Bell, Thomasville, led the discussion.

Dr. Chas. H. Watt, Thomasville, showed a motion picture which demonstrated *Tractor and Distractor Fracture Appliance*, an invention of his.

Dr. W. P. Rhyne, Albany, read a paper on *Relation of Nasal Infection and Sinusitis with Infection of the Middle Ear*.

Dr. Gordon Chason, Bainbridge; Dr. C. K. Wall, Thomasville, and Dr. W. C. Hays, Colquitt, were appointed committeemen to select a meeting place and arrange program for the spring meeting. The next meeting will be held at Colquitt, April 14, 1939. Dr. H. B. Jenkins, Donalsonville, will discuss *Medicine*; Dr. H. M. McKemie, Albany, *Surgery*; and Dr. J. J. Collins, Thomasville, *Specific X-Ray Therapy*.

Dr. Grady N. Coker, Canton, president of the Association, spoke on *Some of Our Mistakes*.

Dr. and Mrs. Gordon Chason, Bainbridge, entertained the members and their wives at a barbecue supper in the Bainbridge Firehouse.

FUNCTIONS OF COUNTY SOCIETIES *To County Societies:*

You are, or should be, a component part of a chartered and legally organized body. Your State Association is chartered by the courts, and operated under fixed constitution and by-laws. How about your county organization? You must have a constitution and by-laws conforming to, or not in conflict with, those of the state and national associations, in order to have a legal standing as a body, not only for your society's protection, but protection of its individual members.

If you have no constitution and by-laws, already adopted and kept in your records, better order a model copy right away, so as to get ready for the jobs organized medicine is getting ready to put over. Model copies may be obtained from Dr. Edgar D. Shanks, Secretary of the Medical Association of Georgia, 478 Peachtree St., N. E., Atlanta, Ga. This is imperative.

J. W. SIMMONS, M.D.,
Parliamentarian.

"STONE WALLS DO NOT A PRISON MAKE NOR IRON BARS A CAGE"

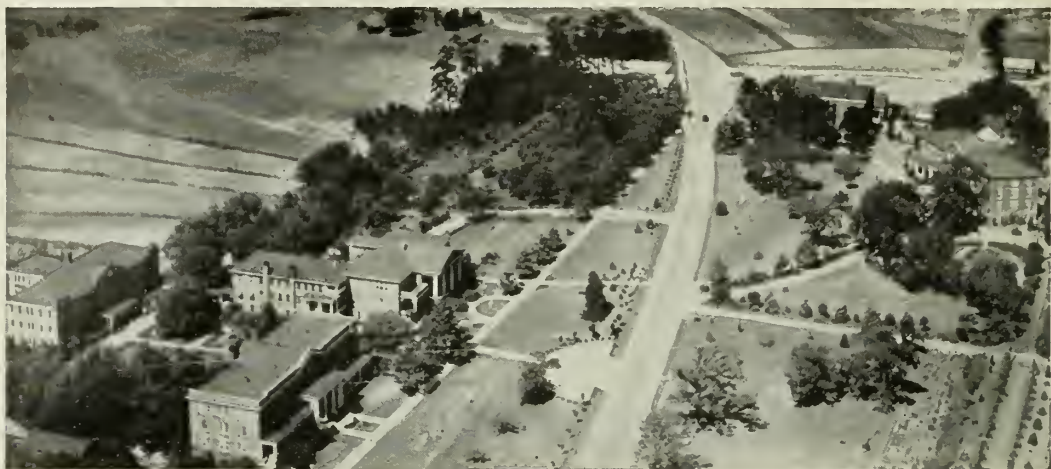
Winter is a jailer who shuts us all in from the fullest vitamin D value of sunlight. The baby becomes virtually a prisoner, in several senses: First of all meteorologic observations prove that winter sunshine in most sections of the country averages 10 to 50 per cent less than summer sunshine. Secondly, the quality of the available sunshine is inferior due to the shorter distance of the sun from the earth altering the angle of the sun's rays. Again, the hour of the day has an important bearing: At 8:30 A. M., there is an average loss of over 31 per cent, and at 3:30 P. M., over 21 per cent.

Furthermore, at this season, the mother is likely to bundle her baby to keep it warm, shutting out the sun from baby's skin; and in turning the carriage away from the wind, she may also turn the child's face away from the sun.

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(Continued on next page)



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(Continued from preceding page)

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SYMPOSIUM ON FRACTURES

FIRST AID TREATMENT AND TRANSPORTATION OF FRACTURES*

GRADY N. COKER, M.D.
Canton

First aid treatment after a fracture has occurred is more likely to be rendered by laymen than by physicians, except in large cities where hospital ambulance service is available. This is in many instances the critical part of the whole treatment. Every ambulance surgeon and general practitioner should know the principles of first aid treatment of fractures, but it is of greater importance to guide and instruct the general public in regard to first aid care and proper transportation of the injured patient.

The first principle in fracture treatment is: "Splint 'em up where they lie," but if this is lived up to it is obvious that the splinting will not be done by the physician. Splinting should be considered only as a means of transportation and not a definite part of the final treatment of a fracture. Every physician should be prepared to instruct the lay public on the most effective manner in transporting a patient with a fracture to the physician's office, or the hospital qualified to treat such injuries. In general, those persons trained by the Boy Scouts, Red Cross and other similar agencies know more about first aid treatment than do physicians, because little responsibility has been accepted during the past by physicians until the patient arrived at their offices or the hospital.

To quote from "An Outline of the Treatment of Fractures," issued by the American College of Surgeons:

"The injuries resulting from fractures are not limited to those occurring at the time of

the accident. Unwise attempts to use the injured extremity may cause or increase displacement of fragments, increase the lacerations of soft parts, and perhaps lead to penetration of the skin by the ends of the bone. Similar additional trauma is often due to the awkward efforts of the bystander. A man is struck by an automobile, thus breaking his leg. Except for the broken bone, without displacement, the original injury may be merely a slight periosteal tear and a mild contusion of the soft parts, but he is helped to his feet and the leg gives way and the fragments slide by each other, thus stripping off the periosteum and tearing the muscle. He falls to the ground only to be picked up and carried to the sidewalk with the leg dangling. Larger blood vessels are torn and the end of the bone comes through the fascia, perhaps the skin and even the trouser. He is laid at rest with a coat beneath his head and surrounded by people anxious to help. Someone sees that his leg is crooked and straightens it out. The exposed end of the bone re-enters the wound with a bit of trouser and dirt off the street. He is lifted up and carried to a car or ambulance. This time someone carries the injured leg with better intentions than coordination and the ends of the bone are churned around in their bed of lacerated tissues and the contaminating organisms are well disseminated throughout the area. During his ride and in the transfer to the accident ward or the doctor's office, unless he has been carefully splinted, there is more jolting and more damage. Would that his troubles were over, but too often the sad story continues. Lack of sufficient protection as he is lifted to and from the x-ray table and as he is being anesthetized result in still more injury."

Compare this exaggerated picture with a similarly injured man who is allowed to re-

*Read before the Medical Association of Georgia, Macon, May 12, 1937.

main where he is until the proper splint can be applied, or at least until he can have someone pull hard on his foot as he is being lifted and carried, whose examination is thoroughly but gently carried out, and whose treatment is instituted with but little additional injury. The difference in these two patients' disability and amount of permanent functional disturbance is great.

Several years ago the American College of Surgeons started a movement to educate the lay public in regard to first aid and transportation of patients with fractures. Most of the states have already outlined this program in regard to giving this education to the lay public. In our state the Red Cross and Boy Scouts have already rendered most effective instruction in regard to this matter. It is my honest conviction that every school, either public or private, should conduct a regular course in first aid treatment, not only in regard to fractures but other severe injuries that occur at different times among the lay public. Our modes of travel in fast transportation, by airplanes, automobiles, railroads, etc., have increased during the past several years the number of fractures the physician is called upon to treat. It has been stated that in the World War the mortality of gunshot wounds involving the femur was reduced from 80 to 20 per cent by the routine use of the Thomas Splint. The physician should be most cooperative in urging to the lay public to carry out the following methods of transportation to be discussed in this paper and not say, as some do, that a fracture does not need to be touched until the patient reaches the doctor's office or the hospital.

Principles of first aid:

1. Splint effectively, wherever found and before transporting the patient.
2. Combat any existing shock.
3. Avoid every unnecessary manipulation.
4. Protect any existing wound by the best means available.
5. Transport carefully.

The injured person should be examined carefully to determine if he is seriously injured. It is not necessary to remove his clothing for the examination as he should be covered carefully except for the parts to be examined. It is not necessary to depend upon pain and loss of motion, or deformity, for the examination or diagnosis of fracture, and

one should rarely if ever obtain crepitus or false point of motion. If suspicious of a fracture it is better to treat the patient as if a diagnosis of fracture had been confirmed.

Shock demands treatment before anything is done for the fracture. The saving of life comes first and the saving of the limb comes second, and there is no use in splinting a limb carefully while neglecting to treat shock from which the patient is dying; on the other hand, traction on an extremity may be the most effective means of combating shock. Morphine, if available, is the first and best treatment for shock; it allays pain and quiets the patient's restlessness. The body heat must be maintained by sufficient extra clothes and other covering.

If a wound is present it should not be washed out, but tincture of iodine, tincture of metaphen or some other antiseptic should be applied to the surrounding skin, exposed soft parts and projecting bone. A clean sterile dressing should then be placed on the wound. Bleeding should be stopped; usually this can be accomplished with a compression bandage. The tourniquet should not be used until compression has proved of no value. Deaths have been caused by improperly applied tourniquets which allowed some arterial blood to enter the part and only shut off the venous return. If a tourniquet must be used, it should be loosened every half hour to allow blood to return to the part distal to the tourniquet.

Do not attempt to replace the fragments in a compound fracture with a projecting bone. If the bone disappears beneath the skin in the course of application of traction, this should not cause anxiety. In any case the patient must be operated on to clean the wound. It is important that word shall accompany the patient that the bone has been exposed, in order to guide the next physician in the treatment. If materials are not available to splint the fracture properly it is far better that the patient lie on the ground where he was found and later be properly removed to the physician's office or hospital. If it is necessary to change his position, traction should be exerted on the injured part while he is being moved.

Special Indications in Individual Fractures

Skull: Keep the patient in the recumbent

position; a pillow may be placed under his head. It is better not to use morphine because the cerebral centers may be already depressed and this depression should not be increased by the use of this drug.

Lower Jaw: Support the lower against the upper jaw by a four-tailed bandage.

Clavicle and Scapula: Use a sling to support the upper extremity, with the elbow flexed and a body bandage to diminish movement at the shoulder.

Spine and Pelvis: In general the patient should be kept flat on his back; a rigid support should be placed beneath his back for transportation (the ordinary stretcher does not furnish this). The "ladder" splint is the simplest one to use. This consists of two long boards fastened together by three cross pieces, either nailed or tied on. It should be padded. In placing the patient on the "ladder" splint or stretcher at least three men should lift him, keeping his body in line. The patient is then tied on the apparatus in the prone position.

Extremities: The only effective and advisable method for transporting a patient with a fracture of the long bones of either upper or lower extremities is by some form of fixed traction. This requires the use of a splint of the Thomas type. By fixed traction is meant: pull is exerted from fixed points above and below, so that the traction remains the same, whatever the position of the limb or splint. Overriding is characteristic of these fractures and there can be no general effective immobilization without traction. In addition, traction relieves pain and shock and prevents further damage during transportation. The fixed traction splint should be applied if there is any possibility of fracture between the hip joint and the foot or between the shoulder joint and the middle of the forearm, no matter whether the injuries are simple or compound.

The full-ring Thomas splint can be used on both upper and lower extremities. More generally applicable and advisable splints of the Thomas type are the Murry-Jones hinged arm splint for the upper extremity and the Kellar-Blake hinged half-ring splint for the lower extremity. These splints should be applied wherever the patient is found without changing his position.

General Requirements of Application:

There are certain standards that are necessary in the application of this general method. It does not make any difference what particular procedure is used so long as one appreciates what must be accomplished. In the use of traction there are six requirements:

1. There must be some adequate form of hitch, and it is necessary to protect the part beneath the hitch so that it will not be injured.
2. The traction hitch should be applied above the ankle or the wrist.
3. There must be some means of increasing traction by twisting so that the desired pull is obtained.
4. The extremity, being in traction, must be supported. One must not depend merely on traction for the entire support of the limb.
5. Not only must the extremity be supported from below, but lateral movement must be prevented.
6. In case of fracture of a lower extremity the whole splint must be suspended so that the heel will not at any moment rest on the ground, the floor of the ambulance or elsewhere.

Example of Typical Application: Take for example a case of possible fracture of the shaft of the femur. The patient is covered with blankets. Morphine is administered, if available, under medical supervision. The foot, with or without the shoe on, is grasped firmly by an assistant, with both hands placed laterally. Gentle, steady, firm traction is made in the axis of the extremity. Manual traction is maintained until splint traction is established. While traction is being made the whole limb is slowly lifted several inches from the ground. The half-ring splint is slipped from the outer side beneath the extremity. The side bars of the splint are placed in the median horizontal plane of the thigh so that the ring rests against the tuber ischia. The strap is buckled over the anterior surface of the thigh. The lower end of the splint rests against the body of the assistant who is still applying traction. The ankle region is protected by cotton wadding or the shoe. A traction hitch is applied, an army traction strap or muslin bandage about ankle, or adhesive plaster to the leg. The traction hitch is fastened to the end of splint and the traction is increased by a Spanish windlass action with a tongue depressor and adhesive plaster, or a long nail. The manual traction is then released. The extremity is supported in the splint by means of a muslin hammock and clips applied before the splint is put on or triangular muslin slings after traction is ap-

plied. Lateral movement is prevented by a muslin bandage above and below the knee or by carrying a triangular sling used for support around the extremity and splint. The end of the splint is suspended to the stretcher bar or to the roof of the ambulance. A foot piece is advisable if transportation is to be prolonged. The method of applying traction to the arm is quite similar.

In hospital practice a traction splint should be applied immediately in the emergency room, if it has not been done before. The patient is transported to the x-ray room and to the ward with traction on. The removal of the patient's clothes is supervised so that if traction must be loosened, it is maintained manually until it can be reapplied. The traction splint is kept on until the patient is in the operating room and under an anesthetic.

If a Thomas splint is not available, the first aid treatment of a fracture of the humerus should consist of binding the arm to the side of the body, with or without a pad in the axilla and with or without a padded wooden splint on the outer aspect of the arm, the wrist being supported by a narrow sling passed about the neck.

For fractures of the elbow, forearm, wrist or hand, padded splints of wood or heavy cardboard will suffice for transportation.

If a Thomas splint is not available for a fracture of the lower extremity, it must be appreciated that unless manual traction is exerted during transportation there is always danger of increasing the extent of the injury. Formerly long side wooden splints were applied from the axilla to beyond the foot for fractures of the hip and thigh, but these are difficult to apply and probably do more harm than good. It is preferable to bind the thighs and legs together using the uninjured leg as a splint.

For a fracture of the patella, leg or ankle, a pillow which is drawn firmly around the part in its proper relation is fairly satisfactory. A padded posterior wooden splint will suffice for patellar fractures, and two lateral wooden splints extending from mid-thigh to foot may be used for leg and ankle fractures. For all fractures of the foot any splint of firm material which keeps the heel and toes from touching any object will suffice.

It is important to remember that the type of first aid and transportation is a large factor in the ultimate recovery.

Modern textbooks and general surgery are now devoting more space to this subject than ever before. Many groups of organized medicine have started some sort of movement in regard to educating the lay public as to the importance of first aid to and the transportation of patients with fracture.

REFERENCES

1. American College of Surgeons—Bulletin.
2. Christopher's—Text Book of Surgery.
3. American Red Cross First Aid Manual.

IMPORTANCE OF X-RAY EXAMINATION OF FRACTURES*

H. H. MCGEE, M.D.
Savannah

The importance of the x-ray examination of fractures is almost universally accepted among medical men today. I will endeavor to point out some features which may be overlooked and which are important in the proper diagnosis and treatment of fractures.

To begin with, a fracture is almost always demonstrable in radiographs of good technical quality, provided the proper positioning of the patient is accomplished. The usual anteroposterior and lateral films suffice in the majority of cases of simple fractures, while sometimes it is necessary to use varied positions, as in fractures of the base of the skull, femoral neck, etc.

Dependence upon x-ray examination for diagnosis is advisable, aside from other factors, because of the medicolegal complications which may ensue if it is omitted. Where a choice is necessary, it is better to secure plates after reduction and immobilization than before, for legal protection.

The roentgenologist's report should include both positive and negative evidence, with a description of the positions used. The injury is described, also the position of the fragments, joint involvement, apposition and alignment, and weight-bearing alignment. At subsequent examinations comparisons are made with previous examinations as to position and callus formation. In this connection I want to state that a proper estimation

*Read before the Medical Association of Georgia, Macon, May 12, 1937.

of the amount or presence of callus cannot be made through a plaster cast. Also that the removal of splints, where necessary, is a responsibility of the surgeon.

Fluoroscopic reduction is very useful in many cases, but there are several rules of safety to be observed: The roentgenologist should be the only one to use the footswitch, as the surgeon is likely to be too free with the exposure. Care should be taken to warn all persons of the dangers of contact with wires if the apparatus is not shockproof. The anesthetist should have a safe position. The exposure time should be limited, never more than five minutes at five milliamperes. (For those interested in more details about exposure time, see article in *American Journal of Roentgenology* for January, 1937, by E. T. Leddy and C. A. Stephenson.) There is no necessity for continuous exposure, but simply as a check on the efforts of the surgeon at reduction. The hands of the operator and surgeon should be protected with lead gloves if the hands are put in the direct path of the rays. It is necessary to prepare the eyes of the surgeon and roentgenologist by wearing dark glasses, or by remaining in the darkened room a sufficient time to allow for accommodation of the eyes. After the reduction is accomplished, plates should always be made in two planes. The roentgenologist should advise the surgeon as to the correctness of position, as to whether a good functional result will likely be obtained, or whether further manipulation is necessary.

The more correct the anatomic realignment of fractures, the less callus formation there will be, provided there has not been an extensive tearing of the periosteum.

Joint injuries in children require a knowledge of the epiphyseal development, and a chart of the epiphyseal development should be kept handy for references.

Simple linear fractures of the skull are the most difficult to demonstrate because of the confusing shadows of vessel markings and suture lines. Fractures at the base are especially difficult, and in the acutely injured, may be impossible to demonstrate because the necessary positioning of the head cannot be obtained. In these acutely injured patients it is probably better not to insist on immediate x-ray examination, as the neces-

sary manipulation may do more harm than good.

Fractures of the cervical spine are best made in bed where possible, without moving the patient. Three positions usually suffice (1) anteroposterior of the lower cervical region; (2) anteroposterior through the open mouth for the first and second cervical; and (3), a lateral view of the entire cervical spine.

Fractures of the dorsal spine are less frequent than those of the lumbar region. Lateral views of the upper dorsal region are not usually satisfactory and an oblique position is used for the upper three or four dorsal vertebrae.

Fractures of the lumbar spine are not especially difficult to demonstrate with good anteroposterior and lateral films. The separate ossification centers of the transverse processes of the first lumbar vertebra are sometimes erroneously interpreted as fractures.

Pelvic fractures are best taken on large films to include the entire pelvis and hips. Accurate positioning of the patient and accurate centering of the tube is necessary. The evenness and symmetry of the pelvic brim is important in estimating pelvic injuries. Any fracture will cause some variation in symmetry.

In fractures around the ankle the functional result depends on the reposition and maintenance of the astragalus under the weight-bearing surface of the lower end of the tibia. The normal weight-bearing line of the tibia passes directly through and bisects the articulating and opposing portion of the astragalus.

In fractures of the lower end of the radius and ulna the restoration of the joint surface of the lower end of the radius to its normal inclination should be sought.

In fractures of the lower end of the humerus the achievement of normal function seems to depend on the reduction that restores the condyles of the humerus to their normal anatomic position anterior to the shaft of the humerus.

Functional reduction of normal joint relations is more important than mere anatomic reduction of fragments.¹

The matter of healing and disability depends so much upon whether the injury entails legal liability or is acquired in sports.

The roentgenogram cannot identify malingering or psychopathic states or record pain; contrariwise, it cannot be forced to substantiate such claims when the anatomic delineation of the bones discloses nothing abnormal.²

One of the most widely accepted fetishes in the management of fractures is that of waiting until the swelling subsides before attempting a reduction. There is no reason for such delay, because the x-ray shows the displacement, and the difficulty of manipulation and reduction is considerably increased after the muscles have become infiltrated with blood and the exudate is partly organized. Many breaks accompanied by great swelling of soft tissues can be reduced by prompt manipulation in the hands of one of experience, where, if they are allowed to rest for several days, can only be replaced by open operation (J. A. Caldwell, Cincinnati, Sept. 1934).

Caldwell's rules follow: 1. Splint the fracture in that position which accurate reduction is maintained, as shown by the x-ray.

2. The position of rest or position of even balance of muscles is apt to be the one in which fragments best stay reduced. The x-ray picture shows whether or not this is true in each case.

3. Use x-ray intelligently and frequently. An early x-ray of an obvious fracture is unnecessary. It should be taken after reduction has been attempted, to determine if this attempt has been successful and if splinting is proper and adequate.³

Every physician who has had occasion to examine x-ray plates for fractures is familiar with the fact that a fracture may not show in one view but is distinct in another view. This is often true in fractures of the fibula just above the ankle, the fracture line being hard to see in the anteroposterior view, but being clearly visible in the lateral view.

In the course of radiologic practice it is very common to meet cases of injury in which an x-ray examination has not been made until long after the accident. The examination is often made only when it is obvious that some unsuspected condition is present; as shown in the radiograph, this may be an unreduced dislocation, a fracture, or a fracture united in poor position. Earlier recognition

of the condition would in many cases result in more efficient treatment, and would avoid consequences unpleasant to the doctor.

In cases where the patient refused x-ray examination, written evidence of this refusal should be obtained for protection of the doctor, provided he continues to treat the case.⁴

It is most unwise to rely on diagnosis made without x-ray, and this is particularly true in fractures near or in a joint. I have recently seen a young child diagnosed as dislocation of the elbow which was thought to have been reduced, and upon x-ray examination a fracture of the lower end of the humerus was found. This case fortunately had x-ray examination soon after the attempted reduction.

During convalescence x-ray examination may be of great aid. All patients apparently not doing well should be rayed, to see how much callus is present and to check on the position of the fracture.⁴

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ELDRIDGE L. ELIASON and JOHN PAUL NORTH, Philadelphia (*Journal A. M. A.*, Sept. 11, 1937), discuss a consecutive series of seventy-four cases of fracture of the shaft of the femur, of which 81 per cent have been followed, so that the ultimate anatomic and functional results are known. The study presents the results of treatment by numerous surgeons, since, in addition to two chiefs, fifteen assistant surgeons were concerned with the management of these patients. It is not a series selected to illustrate the results of any one method of treatment, as a variety of methods are employed. The cases were all fractures of the shaft proper. Consideration is given only to cases admitted to the hospital within one week of the injury and to those in which the fracture occurred through normal bone. Of the seventy-four patients, twenty-four were more than 16 years of age. 1. The emphasis in fracture therapy should be on restitution of function. 2. In fractures of the femoral shaft, perfect anatomic reduction is not necessary for normal function of the limb. 3. Simple closed methods of treatment will give good results in this fracture, provided fundamental principles are respected. 4. Of the several methods of traction employed, that of adhesive tape on the thigh was least effective in producing satisfactory reduction of the fragments. It had to be displaced by other means in all but 13 per cent of children and 11 per cent of adults. Skeletal traction, on the other hand, proved satisfactory in 67 and 62 per cent respectively. Russell and Bryant traction were each effective in 41 per cent of cases in children, although in adults the Russell traction fulfilled the surgeons' requirements in only 25 per cent of patients.

TREATMENT OF FRACTURES IN A SMALL HOSPITAL*

CLEVELAND THOMPSON, M.D.
Millen

Fundamentally, the treatment of fractures in a small hospital is not different from that in the larger institutions, except that the small hospital, with the handicap of less personnel and equipment, must produce end results as good as the best. Soon or late all the complications and unusual types of fracture will be met with.

It is essential that the doctor in charge organize the available medical and hospital personnel. It is his duty to give them definite instructions as to correct first aid and emergency treatment; and information as to the construction, purposes, operation and application of all apparatus, splints and materials to be used in the treatment of fractures. When a fracture is to be treated *every detail* of its management should be rehearsed with the personnel. This forces the doctor to review the best methods used and insures intelligent cooperation from his helpers.

The construction and use of the apparatus and materials should be thoroughly taught to everyone who will have anything to do with the treatment of fractures. One should never attempt to use apparatus and methods with which he is not thoroughly familiar, and simple apparatus well understood and intelligently applied will yield better fracture results than elaborate equipment poorly used.

Every institution must have some equipment. A Hawley table or the complete Roger Anderson traction apparatus is desirable. A variety of splints made of wire, wood, etc., together with plaster of paris, crepe paper, and roller bandages; and sheet wadding, stockinet tubing and cotton felt for padding are needed.

There should be an accurate diagnosis; and an accurate estimate of the patient should be taken. This should consist of a properly taken history, every detail of which is important. When did it happen? How did it happen? What were the immediate symptoms and disability? What subsequent symp-

toms have developed? What has been done, and what is the state of the bladder, rectum and stomach? A urinalysis, hemoglobin estimation and blood Wassermann are essential. A complete physical check-up is made, and before an x-ray examination is done it is desirable to make a thorough clinical examination. Here the doctor must be unhurried and eternally gentle. Inspection, palpation and mensuration in the diagnosis of fractures are beginning to be a forgotten art. Whether or not there is arterial pulsation, or disturbance of sensation should be noted and recorded. In this connection let me call attention to the fact that the numbness that comes on only after fixation and swelling have taken place means a different thing to numbness that comes on coincidental with the injury. Finally, determine if there are other injuries.

The choice of treatment in any given fracture will depend on the fracture, on the doctor and the patient. Individualization is the watch-word. One should never be hurried, and thoughtful gentleness pays big dividends to the sufferer and in good end results.

"Immediate perfect reduction with firm immobilization and constant pressure contact between the fractured surfaces" is the ideal to be sought. Reduction should be immediate, even though it may be found necessary to delay the permanent dressing. Special attention must be given to the soft spots. Some cases, in whom there is excessive trauma, are best treated by incisions to relieve swelling and tension; unless this is done the circulation will be more or less impeded causing delayed healing, and possibly sloughing and an excessively prolonged, difficult convalescence. Immediate elevation of the limb will lessen bleeding and edema at the site of the fracture.

There are few fractures but what require an anesthetic for proper reduction. This choice will depend on the experience of the doctor, the type of patient and the fracture to be treated. My own preference is for local anesthesia—nerve block, or spinal anesthesia. Ten to 40 cc. of a 2 per cent novocain solution injected at the site of the fracture between the ends of the broken bone produce perfect anesthesia, and is surprisingly satisfactory. In a recent case of compound comminuted fracture of both bones of the fore-

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arm at the upper third, of four days' duration and without treatment, in a man of 72, blocking of the brachial plexus above the clavicle with 10 cc. of 2 per cent novocain solution produced perfect anesthesia for an operation of over an hour's duration. In fractures of the femur where much muscle spasm exists spinal anesthesia is preferred.

May I call your attention to the possibility of fat embolism following fracture of a long bone, more often the tibia. The fracture trauma causes disturbance of fat cells in the bone marrow at the site of fracture, and a large amount of liquid oil is produced. The torn venules in the haversian canals cannot collapse because of their thin rigid walls. Adjacent muscle spasm and movement of the fracture may force the fat into the circulation; it reaches the lungs through the right heart, causing infarction and asphyxiation. Then the fat may be forced through the lungs back to the left heart where it is sent to the brain and other parts of the body. Pulmonary fat embolism may come on immediately, with sudden asphyxia, or it may come on gradually many hours after the injury with progressive asphyxia. Cerebral and systemic fat embolism occur concurrently, and always some hours or days after the injury. First, an attack of dyspnea is noted, followed by a progressive coma and petechial hemorrhages occur in the skin of the chest, shoulders and neck. Beyond the history and symptoms enumerated, the only diagnostic finding is the demonstration of fat emboli in the retina with an ophthalmoscope. The greatest element in the production of fat embolism is disturbance and movement at the site of fracture in the early post-injury period. Having a large amount of liquid oil at the site of fracture, and the venules in the haversian canals standing open, one can readily visualize how the edema in the fascial sheath and bandages increase so that the arterial pulsation subjects the oil to hydrostatic pressure with every heart beat. This oil can be pumped into the circulation and cause fat embolism.

The doctor responsible for the treatment of fractures in a small hospital should bring himself and his entire personnel to the point of view that: After first aid, diagnosis, reduction and immobilization, strict attention

and causal relief should be given to every complaint of the patient. Physiotherapy and occupational therapy should be instituted from the beginning if possible. The patient's mental reaction should be studied and, if possible, his period of physical inactivity should be turned into one of mental activity and attainment. Especially helpful books for him are: "About Ourselves" by H. B. Overstreet, and "How to Make Friends and Influence People" by Dale Carnegie.

TREATMENT OF COMPOUND FRACTURES*

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Augusta

A case of compound fracture is in more urgent need of an emergency operation than is the average case of acute appendicitis because 80 per cent of patients with appendicitis will recover without complications whereas 100 per cent of patients with compound fractures will develop infections to a greater or less degree if they are not treated promptly and properly.

One of the most outstanding lessons of the World War was: development of the thought and proof that there exists in compound injuries a period of contamination which does not develop into a stage of infection until after a lapse of several hours. These several hours are the golden hours, the hours of opportunity, and I urge you to not procrastinate because of the lateness of the hour, the cold, rain or other reasons and lose this chance to convert a contaminated and potentially infected wound into a clean wound which may then be expected to heal as such. Why we had not drawn the parallel from observations in the bacteriologic laboratory, where we inoculate a culture tube but see no evidence of growth for several hours, now seems almost stupid. We even knew that we could wash out the inoculation or culture from a solid medium, such as agar, with simple salt solution and no growth would occur.

Immediate thorough cleansing is the keynote and should be delayed only in the presence of shock which, of course, contraindicates any procedure other than efforts to com-

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bat the shock. This cleansing with soap and water, from without inwards and from within outwards, should be repeatedly done until all contamination is washed out. If, in preparation for an operation, we scrub our hands, which are relatively clean, for 10 minutes with soap and water, how can we expect a few moments of slap-dash washing to remove fragments of clothing and dirt ground into a compound fracture, in many of which cases the ends of the bones have been driven into the ground and the medullary canal is plugged with dirt? The outside surrounding skin must be thoroughly cleansed; then, layer by layer of the wound, searching and scrubbing each little nook and cranny in the wound, not forgetting the medullary canals and the periosteum, which almost invariably has been stripped up and quite frequently hides a clump of dirt or filth beneath its under surface. I have frequently spent 30 minutes to an hour in this scrubbing process.

Chemical cleansing or sterilization plays a very minor part in the proper treatment at this stage and is mentioned only to say DON'T use corrosive chemicals (mercurial preparations, iodine and others) in such injuries. They produce a coagulative necrosis which is an excellent culture medium for the few bacteria not washed out, and tend to defeat all your efforts by undoing all you have done. If you must use a chemical, let it be a non-corrosive.

The next important step is surgical cleansing. With the scalpel or scissors remove all shreds of devitalized skin, muscle or fascia, but do not be too zealous about removing fragments of bone, certainly not "orthopedic" fragments which may be found quite helpful in securing apposition and union of the fracture.

Now one's efforts may be directed at the reduction and maintenance of the fracture by such means as seem advisable in the individual case whether fascial strips—kangaroo tendon, intramedullary pegs, silver wire, metal bands or bone or metal plates. Complete immobilization, probably best accomplished by a snugly applied plaster cast, should follow any method of internal fixation.

I have employed this technic since it was proposed and have been forced to subsequent

amputation but once and in this case gas bacillus infection developed in spite of an hour of cleansing of a compound comminuted fracture of the tibia and fibula and the prophylactic administration of gas-tetanus antitoxin. I have not hesitated to use metal for fixation of the fragments where this seemed best, and in but few instances has it been necessary to subsequently remove same because of infection. Promptly and properly applied, these measures will eliminate contamination and prevent infection in a large majority of the cases, and therefore they may be closed snugly and expected to heal per primam.

A thought as to gas bacillus infection: Don't wait for the characteristic odor, crepitus or the x-ray to show gas bubbles; if or when suspected by the clinical reaction of the patient, clip a suture and slip a platinum loop well down into the wound and take a culture which in 4 to 8 hours will be positive if the organism is present, several hours before the above mentioned manifestations. Often a smear made at the same time will show the organisms when they are present.

The watch-words are *promptness* and *thoroughness* of treatment administered during the first few hours, probably a maximum of 8, wherein lies opportunity, so ably defined by John J. Ingalls and so appropriate here:

"Master of human destiny am I, fame and
fortune on my footsteps wait.
I penetrate deserts and seas remote,
Passing hovel and palace, I knock
Unbidden, once, at every gate,
If sleeping, wake—if feasting,
Rise before I turn away.
It is the hour of fate,
And they who follow me
Reach every state, mortals desire
And conquer every foe, save death,
But they who doubt and hesitate
Consigned to misery, penury and woe
Seek me in vain and uselessly implore
I answer not and I return no more."

If you wish to appear on the scientific program of the Association at the Augusta Session to be held April 26-29, 1938, title of paper should be submitted immediately to Dr. H. Cliff Sauls, Chairman of Committee on Scientific Work, Medical Arts Building, Atlanta; or to Dr. Edgar D. Shanks, secretary-treasurer, Doctors' Building, Atlanta.

THE AFTER-CARE OF FRACTURES*

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Atlanta

The after-care of fractures may be construed to cover the period from the time a fractured bone is satisfactorily reduced until the injured person has regained normal function, or a function as nearly normal as we know how to obtain. Successful treatment of fractures obviously does not end with reduction. A perfect position of the bones today may be an unsatisfactory one tomorrow. This is only one of the complications we must prepare for in advance. The various muscle forces tend to upset our well laid plans to maintain a good position. Swelling forces us to split the plaster casts or adjust the splints, and in doing so we may lose position. The force of gravity or the patient's movements may be another cause of displacement of the bones.

Consequently, the first principle in the after-care of fractures is to take x-rays at frequent intervals as we have no other means of determining the position of the fracture. A practical rule is to x-ray twice the first week, and weekly thereafter until we know there is sufficient soft tissue union to prevent slipping. In this way, should there be a loss of position, the discovery is made early and the fault is corrected without loss of time. Frequently the correction must be made by open reduction. We wish to emphasize, however, that we make an original attempt at closed reduction except in certain fractures which we have learned are best handled from the beginning with incision and internal fixation. Such fractures are the neck of the femur, displaced internal malleolus (often associated with a Potts), epicondyle of the humerus, acromioclavicular displacement, the olecranon, the patella, split head of the tibia, and frequently (due to its superficial location) the oblique shaft of the tibia. You will note most of these fractures are within or near joints. In these regions the more perfectly the bones are fitted together, the better the function in the respec-

tive joint. This is not necessarily true in the shaft of the bones.

Another principle in after-care is the patient's comfort and prevention of avoidable complications. It is not normal for a healing bone to produce pain. Pain is a warning and may come from a band of constriction in the cast (such as behind the knee or in front of the elbow), or from the cast rubbing over a bony prominence. There may be pressure on the peroneal nerve on the outer side of the knee causing foot pain and a foot drop. It may come from inadequate immobilization. A painful back may mean a fractured vertebra, or it may come from a second fracture which has been overlooked.

A body-spica cast when applied with care, attention to detail and conforming closely to the surface of the body, can be made into a comfortable and most efficient holding apparatus. We like to turn our patients who are in spicas on their faces for two hours twice daily, preventing bed sores and pneumonia. We allow older people to sit whenever possible to prevent cystitis as well as other complications. A patient with incontinence is kept day and night in a body cast on a Bradford frame with a bed pan constantly beneath to protect the skin and to preserve the cast. He may, however, be transferred to a wheel carriage daily. In our clinic all fractures are ambulatory to the extent of being transferred from bed to a wheel chair or carriage at any time. No one is fixed to his bed. This greatly simplifies after-care.

Compound fractures, usually held in skeletal-plaster fixation or skeletal-plaster traction, are given special attention. Strong irritants, such as iodine and peroxide are not injected into the wound. After original debridement and washing with saline a window only a little larger than the wound is made in the cast. The skin around the wound is protected from the edges of the cast window with sterile gauze. Drainage is maintained with vaseline gauze or narrow strips of soft rubber. The wound is covered with an abundance of gauze and cotton. This dressing is changed completely each day, and twice or three times daily if drainage is profuse. The dressing is changed with sterile gloves and instruments just as if it were an operating room procedure. In this way the wound

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and cast are kept clean and odorless. About the tenth day the drains are removed and wet dressings of 4 per cent hypertonic saline are substituted. Such hypertonic saline solution has been found to cleanse and stimulate healing of granulation tissue better than antiseptics which, of course, are irritants.

We rarely find it necessary in compound fractures to make a secondary surgical drainage. Marked elevation of temperature, associated with edema and redness around the wound, usually indicates inflammation from inadequate immobilization. When the bones are held still the inflammation subsides. Increased fever during the first two weeks may mean, however, burrowing of pus between fascial planes, requiring dependent incision and drainage. In the hip joint such infection should be drained with anterior and posterior incisions, using through and through soft rubber drains. In the knee an incision is made on each side, the rubber drain passing behind the patella. Joint drainage should be maintained for about four weeks. There may be delayed reactions from the combined anti-tetanus and gas bacillus serum always given after any compound injury. The possibility of gas bacillus infection is always kept in mind. Air bubbles seen in the x-ray are not always diagnostic. They are frequently the result of air forced into the tissues at time of injury or from the unthoughtful use of hydrogen peroxide. Modern treatment leans strongly toward multiple incision and frequent exposure to x-rays. Specific serum is given in the muscle or vein, testing carefully for sensitization with each dose. Advising amputation should always require serious thought and sharing of responsibility with a colleague whose opinion we value.

Finally comes the important period in fracture care of determining when to begin motion in adjacent joints. Joints must be saved. To do this means early motion without disturbing bone stability. It is common practice to release the injured extremity a few hours each day for exercise, followed by replacement in the cast or splint. This is fine practice but not permissible until we know from the x-ray examination that there is sufficient callus though not necessarily complete union. There are times when some of the joint motion must be sacrificed and we must continue

to hold the bone immobile longer than usual. During the first week of restoring motion the joints that have been immobilized will swell and become painful. Heat in any form applied one hour three times a day, followed by gentle, slow active and passive motion will be most gratifying. After the preliminary swelling, motion and massage will decrease swelling. It has recently been proved that motion and massage supply the forces needed for lymphatic circulation. One of the main functions of the lymphatic system is to carry off by-products and eliminate edema. Even in a normal person lymphatic circulation is sluggish and is dependent almost entirely on a milking action from some external force such as the contraction of muscles or the rhythmic expansion of adjacent arteries. In an idle extremity the lymph flow is practically nil. As seen with the microscope focused on the lymphatics of the normal, living, idle animal, the lymph flows slowly back and forth in dilated channels. From this, the value of physiotherapy is undisputable.

But the expert physiotherapist can do more. She (or he) knows how often, how far and with what force to move a joint. Joint structures are delicate and easily injured. When forcibly injured they become tightened rather than relaxed. The physiotherapist also has a means of actually causing a muscle fiber to increase in size, tone and strength without the patient's effort. To do this she uses a rhythmic galvanic current applied daily. Even before removal of the cast she can apply this stimulation and prevent muscular atrophy. In sprains, especially of the ankle, this galvanic current is applied immediately. It prevents joint contracture and relieves pain. Strapping is not used as it prevents motion.

In the early period of this restoration of function, some type of holding apparatus is often needed. For the femur, and sometimes a tibia, nothing excels the application of an accurately made brace. It protects the fracture and allows joint motion. A delayed union will frequently become a solid union after several weeks of walking in a brace. When a brace is not used, a posterior section of the cast from knee to foot can be removed daily for knee joint motion. A little later a short single spica, extending downward closely on

each side of the knee, can be applied for weight-bearing with crutches.

For a Colles fracture after five or six weeks a cock-up anterior plaster splint with an ACE bandage is comforting protection to the sore wrist joint. A right angle sling will prevent an elbow from getting an extension contraction from the force of gravity. A high top Munson last shoe gives adequate support to a Potts fracture after eight weeks. Such a shoe with form-fitting metal foot plate serves well for an os calcis. Often with fractures of the metatarsals, and always with the phalanges of the toes, a high top, stiff sole shoe is worn from the beginning and immediate walking (with crutches the first few days) is permitted.

Hands deserve mention. We cannot immobilize fingers beyond the third week. Fingers and thumb must be free to flex and extend completely for any fracture at or above the wrist. Failure to trim the cast in the palm may cause contracted fingers. When fingers must be held for fractures below the wrist, they should be flexed half way between extension and flexion with the wrist dorsally flexed. This is the position of physiologic rest, assuring us of the best function later on when motion is begun. The thumb is 50 per cent of the hand. When held, it is placed in a semi-extended, adducted position opposing the four fingers. The position causing the greatest disability, and often requiring surgical correction, is the hand flat on a board with thumb to the side. If resistant contractions of the fingers are allowed to develop they are best corrected with careful elastic stretching with a plaster cast-rubber band apparatus, removed several times a day for exercise and physiotherapy. If too resistant there is a useful procedure of clipping the shortened lateral ligament on each side of the joint.

Sometimes in handling fractures, even with well laid plans carefully followed, the result is not a satisfactory one. When all else has failed and the time for healing has passed, surgery becomes our most valuable form of treatment. A non-union will require exposure of the fracture, freshening of the ends of the bones, plus insertion of a bone graft and bone shavings from the tibia, followed by a second period of plaster immobilization. For

rough, painful joints there is no more satisfactory operation than fusing the joint in the position of most useful function. A hip or knee stiffened in the best position for weight-bearing; an elbow at a right angle; a wrist cocked up; a shoulder at 45 degrees, and a surgically fused spine or a stabilized foot are not as disabling as one might think. Workmen are restored to wage earners and others are made comfortable. A perfect result is not always obtainable but improvement is the rule. Reconstruction of an elbow to provide motion is a very satisfactory procedure. At times arthroplasty will be indicated for a stiff or painful knee. In those comparatively rare instances where, from unavoidable loss of bone substance or from other complications, there follows a marked inequality in length of the two extremities, the femur or tibia of the opposite leg may be shortened with good functional and cosmetic result.

It is interesting to note in this discussion that only one word has been mentioned about fractures of the neck of the femur, perhaps in the past the most difficult type of fracture to treat successfully. Once reduced and held with the Smith-Petersen nail, no holding apparatus is needed and there is no after-care except to prevent weight-bearing for eight weeks. No other method has ever accomplished such a satisfactory end result with such uniformity, and we feel it should be the routine procedure in all fractures of the neck of the femur.

CELEBRATION OF THE PRESIDENT'S BIRTHDAY

It should be the especial pride and privilege of all Georgians to lend material support to the worthy, unselfish and humanitarian cause for which the President's birthday is celebrated. To none does this apply with such force as our profession. It is our duty to provide for those suffering disabilities the result of infantile paralysis every curative measure modern medicine and surgery have to offer; but a greater obligation is to leave no avenue unexplored in order to make possible the prevention of this dreaded disease. Both can be hastened by our support of a foundation to treat those already disabled, and to further research in curative and preventive measures. It is hoped every physician in Georgia will lend his utmost support to make this undertaking an unqualified success.

THE DIAGNOSIS AND TREATMENT OF ACUTE HEAD INJURIES*

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It is not the purpose of this paper to present anything new but owing to the ever-increasing number of accidents due to modern methods of rapid transit, it is well that we occasionally review the subject of head injuries. It is possible, also, that there might be an additional increase of such injuries since the change of our present prohibition laws. In the short time allotted for this large and important subject only the salient points can be discussed, so I will give the classification usually used and pass to the discussion of increased intracranial pressure. This seems to me to be the most important from the standpoint of diagnosis, prognosis and treatment. It is well that we keep in mind at all times that injury to the brain is more important than injury to the skull.

Classification of Head Injuries

I. Those with cerebral injury either associated with or without cranial injury.

1. Concussion
2. Edema
3. Contusion
4. Laceration
5. Hemorrhage
 - a. Intradural
 - b. Extradural.

II. Those without brain involvement.

1. Scalp wounds
2. Skull fracture
 - a. Vault
 - b. Basal
 - c. Simple
 - d. Linear
 - e. Comminuted
 - f. Depressed
 - g. Compound.

Concussion may be a simple transient loss of consciousness or it may be serious enough to cause death. In ordinary cases there is a gradual return of consciousness, with some nausea, vomiting and headache. This condition should be watched for at least 24 hours.

Edema of the brain is now being recognized as an important phase of head injuries. As it does occur in a large number of head injuries it should be watched for as the treat-

ment is important. It causes increased intracranial pressure of varying degrees and, when severe, may cause death. Edema causes clouding of consciousness, or unconsciousness associated with headache, nausea and vomiting. These patients should be watched varying lengths of time depending on the severity of the case.

Contusion and laceration of the brain are, as their names imply, serious conditions and, if severe, will cause death. Laceration is usually associated with skull fracture and with each there is usually an increase in the intracranial pressure.

Increased intracranial pressure is largely due to edema and hemorrhage. Hemorrhage may be either extradural or intradural. Extradural hemorrhage is due largely to rupture of the middle meningeal artery or one of its branches. Occasionally it is due to rupture of the lateral venous sinus. While extradural hemorrhage is less common than intradural, it should be recognized early because it is one of the conditions in which surgery is indicated as soon as the diagnosis is made. Extradural hemorrhage presents the picture of the "lucid interval"; that is, the patient is usually seen first in the state of unconsciousness with a fast thready pulse; then comes the period when there is a return to consciousness and the patient becomes more nearly normal. As the hemorrhage progresses there is a slowing of the pulse, a rise in the blood pressure and a progressing unconsciousness. Unless surgical intervention takes place, death ensues. A subtemporal decompression, which should be in every general surgeon's armamentarium, is the operation for locating the hemorrhage. Usually the bleeding vessel can be found and ligated.

If a patient does not present a picture of profound shock a very careful examination should be made. If the patient is in shock this should be treated first and the examination made later. The examination should include a careful neurologic examination and should be made at frequent intervals to determine the progress of the condition. Blood pressure readings, pulse rate and spinal puncture are most important aids in diagnosis. Other signs will be discussed later. When making a diagnosis take all information at hand and put it together because all

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typical signs and symptoms may not be present in every patient.

The blood pressure, as a rule, drops in concussion, then returns to normal; but in brain involvement, which causes increased intracranial pressure, there will be a subsequent rise. A continued rise is usually a sign of progressive increasing pressure. This will reach a peak, at which time medullary anemia occurs; then the blood pressure falls, which means death is almost certain. There are some patients in whom there is considerable increase in intracranial pressure but little change in the blood pressure. This has been explained as a pressure on the cerebrum and with little or no pressure on the medulla.

The value of the pulse rate in diagnosis has been a question of argument but it is an undisputed and valuable prognostic sign. When a patient is first seen and is in shock, the pulse rate will be fast and thready. As reaction from shock takes place the pulse will more nearly approach normal. If the intracranial pressure is increased the pulse becomes more full and slower due to edema of the medullary centers. This is one of the late signs, however, and it should not be waited for. Even after this time the pulse may again increase in rate and become weak. When a patient presents a slow pulse rate soon after the injury this usually means a poor prognosis.

The character and pressure of the cerebrospinal fluid is by far the most valuable diagnostic and prognostic sign. A careful spinal puncture and manometric pressure reading is necessary in all cases of suspected hemorrhage as well as all other head injuries. There are those surgeons who advise against spinal punctures in these cases, saying that it is much too dangerous, but in spite of their arguments the procedure is still considered by the best authorities to give most valuable information in these cases. Spinal puncture is not only valuable in making a diagnosis, but is necessary in the treatment of some patients. Repeated spinal punctures also tell of the progress of the disease. In cases of increased intracranial pressure the spinal pressure is almost always increased. Those patients in whom the spinal pressure is very high are usually fatal cases.

Examination of the eyes should always be done. Eye signs aid in diagnosis, prognosis

and the progress of the disease. The eyes should be examined frequently in head injuries. A dilated, fixed pupil usually means a hemorrhage on the corresponding side. Widely dilated and fixed pupils are usually a sign calling for a poor prognosis. When nystagmus is present it is usually toward the affected side. There is some difference of opinion concerning choked disc but it is known that it is a late sign of pressure.

Each case of intracranial pressure should be considered a special case and should be treated according to specific needs. The pendulum has swung in the past ten years to conservatism in treating these cases; today, relatively few are subjected to operation. There is the group of cases of extradural hemorrhage which should be operated on as soon as the diagnosis is made but few from other causes will require operation. This conservatism has lowered the mortality rate in head injuries.

If the patient is seen in shock, treat this first and proceed to the examination. Morphine should be given with great care on account of its depressing effect on the medulla. Sodium amytal is the drug to be used in controlling the restlessness due to head injuries. Controlling restlessness tends to decrease the hemorrhage. Caffein and adrenalin tend to depress the respiratory and circulatory systems although it may seem to help for a short time after being given. Do not irrigate the ears if there is bleeding or any escape of cerebrospinal fluid.

As soon as the shock is over make a careful examination and x-ray the skull. Then, if indicated, do a spinal puncture. If blood is found in the fluid and the pressure is above 10 mm. of mercury, a portion should be drained off. The general rule is to drain off 50 per cent of the increase above normal at each puncture. If the pressure is 20 mm., enough fluid should be drained off to reduce the pressure to 15 mm. Puncture can be repeated if necessary to reduce the pressure to normal. It should be done in cases which show blood, because leaving it will cause cerebral atrophy. Spinal punctures may be done every 6 to 24 hours as is necessary.

In cases where increased pressure is found the use of hypertonic solutions are valuable. Fifty per cent sucrose given intravenously is

the most satisfactory solution to use and may be given in quantities of 50 to 100 cc. every 12 to 24 hours. Fluid intake should be limited to 750 cc. every 24 hours. Magnesium sulphate given in concentrated solutions by mouth is also valuable in this condition. Advise a maximum period of rest after head injuries.

Scalp wounds should be carefully examined to determine if there is a skull fracture. The usual surgical care should be given them. Fractures of the vault of the skull occur more often than those of the base, but basal fractures are by far the most serious. Both may occur together. All suspected skull fractures should be subjected to x-ray, but some of the basal fractures may not be seen. Bleeding about the orbit, nose, mouth or behind the ear should lead one to suspect basal fracture. In such cases a guarded prognosis should be given. Depressions in the skull should be elevated and those of the cerebral region should be elevated early.

Summary

Injury to the brain is more important than injury to the skull.

All patients with head injuries should be given a careful examination and watched closely.

Edema is more common than it was once thought to be.

Increased intracranial pressure should be diagnosed early and, if due to middle meningeal hemorrhage, operate early.

Spinal punctures, hypertonic solutions (intravenously), and magnesium sulphate (by mouth) tend to decrease increased intracranial pressure.

Those cases of hemorrhage which do not respond to conservative treatment should be given the advantage of a decompression operation.

Conservatism is a good motto for one treating head injuries.

Prolonged rest is necessary after head injuries.

The Medical Association of Georgia will hold its Eighty-ninth Annual Session at the Forest Hills Hotel, Augusta, April 26, 27, 28, 29, 1938. Make reservations early. You will be delighted with our headquarters. You needn't bother about details and comfort.

MEDICO-LEGAL ASPECTS OF FRACTURES*

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Atlanta

There is perhaps no other branch of medicine and surgery which affords a more prolific source of controversy between the patient and physician than the diagnosis and treatment of fractures. The difficulty of correct diagnosis, sometimes due to the lack of or failure to use proper x-ray equipment, and the severity of fractures, which in many cases, even with correct diagnosis and treatment makes good results impossible, and the fact that there is always in most instances visible evidence of bad results, all tend to create dissatisfaction in the minds of patients, many of whom do not understand the legal obligations imposed upon a physician, but regard him as an insurer or guarantor of good results in all cases.

The law requires a physician or surgeon to have and use in the treatment of a patient a reasonable or ordinary degree of care and skill, and to use his best judgment in the application of skill and knowledge in deciding upon the nature of the injury or disease, and the best mode of treatment. The reasonable degree of care and skill imposed by law must be taken and considered to be such a degree of care and skill as under similar and like surrounding circumstances is ordinarily employed by the profession generally. Whether such care has been used in a given case is decided by a jury of laymen, guided by their own experiences and the testimony, including expert testimony. A physician holding himself out as having special knowledge and skill in the treatment of particular diseases or injuries is bound to bring to the discharge of his duty not merely the average degree of skill possessed by general practitioners, but that special degree of skill and knowledge possessed by physicians who are specialists in the treatment of such diseases or injuries. A physician is not an insurer or guarantor of the results of his diagnosis or treatment or operation; nor is he responsible for the judg-

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ment he employs if any error arises from the peculiar circumstances of the case, and not from want of proper care or competent skill on his part.

All questions of negligence must be based upon evidence to be determined by a jury. The burden of proof in all cases is upon the plaintiff to prove to the satisfaction of the jury, not only a failure on the part of the physician to exercise a reasonable degree of care or skill, but also that the injury complained of resulted from such failure. In some states the courts adopt the rule that in considering whether or not a physician in his diagnosis, care and treatment of a patient exercised ordinary care and skill, the jury may not set up a standard of their own, but must be guided in that regard solely by the testimony of physicians. Georgia, however, does not go quite that far and permits lay witnesses in some instances, such as where the physician is so palpably at fault that the lay mind can see it without expert guidance, to testify what should have been done. But even in Georgia, in most cases, unless the plaintiff produces testimony of an expert witness, or witnesses, showing a dereliction of duty on the part of the physician, unless the error is so obvious as to warrant the inference of want of care from the testimony of laymen or in the light of the knowledge and experience of jurors themselves, the plaintiff cannot recover. In most of the cases there are, however, sufficient inferences, or even testimony, which would raise a jury issue.

A patient is entitled to an ordinary careful and thorough examination, such as the circumstances, the condition of the patient, and the physician's opportunities for examination will permit, and while he does not insure the correctness of his diagnosis, a physician or surgeon is required to use reasonable skill and care in determining through diagnosis the condition of the patient and the nature of his ailment, and is liable for a failure due to a want of the proper skill or care to diagnose correctly the nature of the injury or ailment. But whether a physician was negligent in making a diagnosis must be determined in the light of the conditions existing and the facts known at the time of the diagnosis, and not in the light of knowledge gained through subsequent developments.

I will discuss briefly the facts in a few fracture cases, only a few of which are from Georgia courts.

A failure to make an x-ray examination in diagnosing or reducing a fracture often raises a jury question. Ordinarily, it is not necessarily negligence to fail to take an x-ray photograph in treating an injured limb. Likewise, such failure would not be negligence if no x-ray apparatus, or suitable electric current, is available; nor where the physician correctly ascertains the nature and location of the fracture without x-ray; nor where the physician by opening the joint and inserting his finger ascertains that there is no fracture; nor where the physician made fluoroscopic examination and the taking of an x-ray photograph would be a measure of extreme care; nor unless it is shown to be usual and customary under like circumstances, and that ordinary skillful and careful physicians and surgeons would have done so. But where it is shown to be the proper treatment and facilities are available, the taking of an x-ray picture, even without the request of the patient is a part of the physician's duty and a jury is warranted in concluding from its general knowledge of the use of the x-ray in such cases that the failure to employ it when available is negligence. Excessive delay in taking an x-ray picture which would better enable the physician to treat an injured or fractured bone is negligence.

A verdict against a physician was upheld where there was evidence from which the jury found that the physician encased the broken leg of the plaintiff in a plaster cast without first bringing the ends of the broken bones together, so that they might properly unite, and that by the use of an x-ray which was available the position of the broken bones could have and should have been ascertained before the application of the plaster cast.

A patient was denied a recovery in this case; the patient fell and injured her knee; the physician found the knee was too painful to make a thorough examination without an anesthetic. When he returned several hours later with the anesthetic and made the examination his diagnosis was that the injury was the result of a torn muscle and not a fractured patella. Later another physician

diagnosed the case by x-ray as a broken patella. As to the negligence of the first physician's diagnosis, the strongest point in the plaintiff's favor was that there was an indentation on the knee showing the breaking of the bone and large enough to hold the finger. There was undisputed evidence, however, that a torn muscle would have produced the same depression, and that an injured knee presented difficulties of diagnosis that misled the most skillful physicians.

In another case, a physician while driving along a highway came upon a man who had been injured in an automobile collision. The man was badly injured and drunk, and it was apparent that both bones of his leg were fractured a few inches below the knee. The physician sent the man to a hospital and with the aid of a fluoroscope reduced the fractures. The leg was placed in a cast and x-ray pictures showed the bones in good position. The patient made no complaint of other injuries. Two months later another physician discovered that there was a fracture of the head of the femur and that the capsule of the hip joint had been lacerated and that there was a dislocation of the hip joint. An operation was performed but good results were not obtained. The patient sued the physician, claiming negligence in not discovering the injury of the hip joint. The physician defended by showing that there was no apparent injury of the hip joint and no complaint of such injury, and that the leg could be flexed, and that evidently the dislocation occurred subsequent to the original injury and treatment. He further showed that the second operation disclosed an unusual injury to the capsule of the hip joint, which could not have been repaired, even if it had been discovered earlier. The jury found for the defendant.

In another case a patient's hip was injured in a fall. The court held that the defendant was not negligent in failing to discover an impacted fracture, where it appeared that the physician had x-ray pictures taken, which constituted a most scientific method of determining whether a fracture existed, and that there was no such lack of skill or ordinary care shown to justify the submission of the question of negligence to the jury, although greater care could have been exer-

cised by having a larger number of x-ray pictures taken.

In another case a man was thrown from an automobile and the ulna of his left arm was broken and the head of the radius of the arm was dislocated. The physician set the broken ulna and put the arm in splints, but nothing was done in regard to the dislocated radius. The patient claimed that the defendant negligently failed to discover that the radius was dislocated, and that he did not properly treat the same as he did not know of it. The physician testified that he suspected there might be a dislocation of the head of the radius, but that the arm was so much swollen that he could not then determine that, and that he did not feel that it was safe to etherize the plaintiff and operate immediately, owing to plaintiff's physical condition as indicated by his breathing. The court held that the jury should decide whether or not under the facts of the case the physician exercised the legally required care and the jury found for the patient.

In another case the patient's evidence showed that the physician permitted the fractured bones of the plaintiff's leg to remain out of alignment, and thereby to grow together out of the normal and proper relation to each other, and failed to employ a suitable device to cause the fractured bones to unite in the normal and usual alignment. The patient's evidence also tended to show that it was negligence to place the plaintiff's leg in a wire basket or fracture basket, as the physician did after the setting of the bones, and to allow it to remain there for weeks instead of putting it in a splint or cast designed to hold the bones rigidly in position. This is another jury question.

In another case it appeared that the plaintiff was seven weeks in the hospital under a physician's care. When he left the hospital there was a union of the bones, but they overlapped. The court held that this was so unusual and contrary to human experience that it was within the province of the jury to say that such result was due to the negligence of the defendant, especially since a second operation removed the difficulty and left the plaintiff in a normal condition.

In another case, where the physician was employed to attend the plaintiff for a frac-

ture of the femur it was held that the physician could not be held responsible for the non-union of the bones at the fractured part, resulting in the permanent shortening and stiffening of the leg, where it appeared that the defendant's treatment of the injury was the usual and customary method of ordinarily careful and skillful physicians in the community. The court was also of the opinion that the physician was not negligent in failing to use the x-ray to discover whether or not the bones were in apposition, where it appeared that no x-ray apparatus was available.

A verdict for the plaintiff was affirmed where it was shown that the physician reduced a fractured left arm and put the arm in splints; sores developed under the bandages and there was dead tissue and part of the bone was dead. As a result of the diseased condition that developed, the arm became deformed. The patient contended that the bandages placed on the arm were wrapped too tightly and that the patient complained of this from time to time but that the physician told her it was all right. The court held that the jury was authorized to find for the plaintiff.

In diagnosing and reducing and treating fractures, the following suggestions will be helpful to you in the event of a malpractice suit, even though some of them may seem unnecessary from the viewpoint of the physician, and may be calling for a higher degree of care than required by law:

1. If there is the slightest reason to suspect a fracture, at the site of a visible injury or elsewhere, make a thorough x-ray examination.

- (a) If x-ray apparatus is not available in your community, or if the patient refuses to authorize x-ray examination, be sure to advise the patient in the presence of reliable witnesses that you advise the use of x-ray, and that you will not be responsible for any error of diagnosis or treatment which could have been prevented by the use of x-ray or fluoroscope.

2. If you are not skilled in interpreting x-ray pictures, do not hesitate to get competent help. Even if you are skilled in interpreting x-ray pictures or in reducing fractures, it is advisable to have one or more competent physicians in all cases where bad results

might follow to examine the x-ray pictures and to confirm your diagnosis, and to verify the diagnosis and the position of the bones after reduction.

3. In cases of severe fractures where bad results are likely to follow, even at the hands of the most skillful, do not undertake to handle the case unless you are an expert in that line, without first recommending to the patient that he consult such an expert, and if he refuses, inform him before you accept employment that you recommend that he consult an expert and that you do not undertake to use any more care or skill than the average physician practicing in the same line of work as yours uses and possesses.

4. If a patient should enter a hospital in order to receive proper diagnosis and treatment and refuses to do so, inform him in the presence of reliable witnesses that you will not be responsible for any bad results which could have been prevented had the patient entered a hospital.

5. Check your diagnosis carefully. Consider every symptom and every detail of the history and be sure to use every diagnostic aid available, and if you have the slightest doubt as to whether or not your diagnosis is correct, do not hesitate to consult another doctor whom you consider as able or abler than you to confirm your diagnosis.

6. Keep good office records of the case and preserve them.

DISCUSSION OF SYMPOSIUM ON FRACTURES

Dr. J. W. Simmons (Brunswick): Realizing that, due to the reputations of the authors and the excellence of the papers of this symposium, it will evoke a veritable avalanche of discussion, it will only be necessary to open the floodgates to pet fracture practices. My remarks will be brief, my comments confined to a few questions, and my pet practice demonstration possibly puerile.

The outstanding impression of Dr. Coker's paper is the necessity of educating the laity in rendering helpful, instead of harmful first aid, especially in handling compound fracture accidents on our highways. May I suggest that this Association sponsor a movement to educate the good samaritans of the highways by a well-prepared series of newspaper articles; radio talks; bulletins to be distributed through the Board of Health in auto-license plate envelopes, through filling stations, etc., asking the cooperation of all agencies disseminating information; in order that patients may reach the doctors in the best possible shape for the saving of lives and limbs. Every ambulance should have in it a fixed chart and bulletin detailing the best principles of handling the injured.

Under the former time and expense limitation of the industrial compensation laws, the suggestions of Dr. McGee and Drs. Hoke, Sandison and Thornton regarding the frequent x-ray check-ups of fracture cases, would have proved too expensive. We are hoping that the Commission and insurance companies will be more liberal now, and allow those handling industrial cases to endeavor to obtain just as good results in these cases as are possible in private practice.

Many of us have wondered why we had such profuse discharges and slow healing in dirty cases of compound fractures. We are enlightened now. Dr. Rhodes, in his most excellent paper inveighs against the use of corrosive antiseptics; while many of us have endeavored to kill by cauterization all the bacteria we could not remove, we have injured the tissues and slowed nature's reparative forces, instead. Dr. Coker, however, gives us mercurial and iodine users a degree of comfort.

Having had several cases of head injuries manifesting retrograde amnesia and complete temporary (one case permanent) change of personality, I would like to inquire of Dr. Cheves, and those following me in the discussion, their ideas of the brain trauma in such cases.

I am happy that Drs. Hoke, Sandison and Thornton have dignified physiotherapy. Rehabilitation, especially among the injured working class, should be our constant aim in a southland that is becoming rapidly industrialized, and it behooves us to use every means within our command to obtain the best functional results possible.

I wish to thank the essayists for the advance copies of their papers, which have prominent places in my library of reference.

Now, like the Californian who siezed upon the opportunity presented at the funeral of a perfect stranger, about whom none could eulogize, in order to extol the glories of his State, I beg to meekly present and demonstrate a few simple, home-made splints that I have found extremely useful. Long before the advent of the cumbersome and awkward banjo splint, that prohibits the use of an intact sleeve or trouser leg, I started using the ubiquitous clothes hanger for splint material. To the worker the hands and feet are the most important of all members. With the one he works; with the other he gets about. The majority of all industrial injuries are to these members, in the way of lacerations, simple and compound fractures. For phalanges, metacarpals and some metatarsal fractures, especially those requiring frequent dressings and, in the fingers, prevention of ankylosed joints, the splints here presented are suggested to you for what you might think they are worth. I have no claim of originality so far as the principle is concerned; simply a mechanical bent in the use of wire and a pair of strong, round-nosed pliers to fashion what I think I need.

This splint is for the left thumb. It can be held in any degree of abduction or adduction deemed desirable. It lends itself, as do the individual finger splints, to change of flexion angles at the joints, to approximation straps or pads, either lateral or anteroposterior, for

the phalangeal fractures. Through maintained extension, it preserves joint intervals.

Embedded in a plaster cuff, the combined metacarpal and multiple phalangeal splint, in a badly lacerated and fractured hand, will serve to save more fingers and preserve better palmar arches than any flat splint, or the usual aluminum digital splints, even though they may provide for so-called extension. These splints do not have to be removed for dressings. If more rigidity is desired, wire may be wound around the long lateral hand supports, or a plaster reinforcement placed laterally. I trust there may be just a few, who like myself, are not experts in the use of highly technical apparatus, who appreciate simplicity. Extension is maintained by the use of the rubber bands, with a hole, preferably two holes, drilled in the nails; or the use of a small pin for the skeletal traction. Moleskin adhesive does not seem to hold in these cases of small fractures, with small surface adhesion.

The commercial arched palmar splint of aluminum may be incorporated into the wire frame for extension. I have never been able to get proper metacarpal extension with this commercial splint alone—that is, not sufficient to prevent slight overriding or angulation. This splint, with plaster cuff extending up the wrist, can also be used as an adjustable form of cock-up splint, so useful in preventing loss of dorsiflexion, I have found frequently following fractures. Stout aluminum wire is preferable, for obvious reasons. Many more adaptations of these splints will suggest themselves to you.

Dr. John D. Blackburn (Thomaston): These questions of fractures have been pretty well covered. There are just a few points that I should like to bring out.

As to Dr. Coker's paper about the first aid and transportation of fractured cases, except in cities where there is a county or city hospital, they are generally handled by an ambulance, manned by an undertaker or anyone he can pick up to help him. We will have to train these people ourselves.

I think the main damage done to patients with fractures is from people picking them up on the highway and throwing them in a car. They do a lot of damage in cutting up the soft tissue and in increasing the deformity. This is especially bad for spinal fractures, which should be carried flat in a car or an ambulance, and fractures of the cervical spine are a good many times killed because in picking them up the head is flexed forward, which injures the respiratory center and that ends it.

So far as the traction is concerned, I think the public should be taught to hold the fracture by slight traction on a foot or hand or head, when put into the ambulance, and hold onto them, which would be more practical, because the hospital is not as far away as it used to be and the highways are paved.

I agree with Dr. Coker about morphine. It is a great thing to give, except in the pulseless patients or brain-injured patients.

In the second paper by Dr. McGee about x-rays, I agree with him. All the fractures should be x-rayed. There is no doubt about that. They should be x-rayed before as well as after reduction. X-rays through a cast do not show callus to a satisfactory degree. I think

the fluoroscope is worth a great deal, but the x-ray should be used for diagnosis, because you have a record. You can see through the fluoroscope fairly well but you cannot see the fine detail that you can in the film.

As to the surgeon depending on the roentgenologist to tell him whether the fracture is reduced properly or not, or whether it is going to be a good functional result, I think the surgeon should be able to read it on the x-ray films. That is sometimes very hard. I think all head injuries ought to be x-rayed, if they can possibly be moved without damage. Sometimes when gentle traction is applied you can put that patient on the table and take an A.P. or semilateral view. You can frequently pick up a fracture.

I think it would be better to x-ray cervical fractures on the table, where you have a Bucky diaphragm built in, because the films are much more satisfactory than without. There is no damage done if the patient is able to be moved at all.

X-rays of the lumbar spine are especially important in so-called sprains of the lower back. So many patients have a fracture of the transverse process of one lumbar vertebra and are treated as a sprain and go on with a lame back for years until someone x-rays and finds a fracture of the transverse vertebra. The ones that cause the most pain are usually those broken off and turned at an angle. The type that are fractured without displacement are such that rest in bed for two or three weeks is sufficient treatment.

He spoke of functional reduction rather than anatomic reduction. I think that is a thing we all ought to keep in mind. You can sometimes have a fracture reduced where it looks beautiful in the x-ray, and you have an awful result from a functional standpoint. On the other hand, you can have a fracture that looks bad in the film, and the patient may have better than a 90 per cent function. I think we should have the so-called orthopedic conscience; that is, looking ahead for the ultimate function.

I think the idea about reducing fractures early is the only thing to consider, because the swelling interferes so much with the reduction.

As to the treatment of fractures in a small hospital, presented by Dr. Thompson, the treatment is essentially the same as in the large hospital, but since I have been operating a small hospital for the past three years I have found one difference that rather surprised me. I practiced at Atlanta for about fifteen years and I had lots of help, yet I have found that in a small hospital you can take a patient with a massive fracture, can check him over, diagnose him, x-ray him, put him up, then to bed, in the same time required to only "put him up" in the large hospital. I don't know why that is, except that you have a small crew and they are all trained to your own way of doing things.

As to the compound fractures, I am not willing to scrub out the compound fractures with soap and water. I syringe them out with saline or green soap and water, and pick out the fragments and all the dirt I can. I do not know whether the doctor meant what he said about scrubbing the wounds or not. I am afraid to do that.

As to gas gangrene. I think we all ought to use gas gangrene-tetanus antitoxin immediately, before we do anything else.

Dr. Allen H. Bunce (Atlanta): My remarks will be confined to the paper of Mr. Middlebrooks. Having had fifteen years' experience trying to help doctors in trouble, hearing their tales of woe, I have made some observations which I think may prove helpful.

First, beware of the patient who comes to you complaining of his previous doctor. When he comes complaining of his previous treatment he is going to go away and complain to someone else about you, and he is going from the next one to another one, and so on.

Second, be sure to call a consultation whenever you think there is any evidence whatsoever for it. We do not have enough consultations. We should help each other instead of criticizing each other.

Third, and most important of all, Mr. Middlebrooks omitted the chief cause of damage suits against doctors. The chief cause of damage suits against doctors is the unwarranted criticism of some other doctor, or the remarks of other doctors. The doctor to whom the patient goes may say nothing. He may keep his mouth shut. But the patient may think that his silence corroborates the statements made by the patient.

If we as a profession will help each other more, criticize each other less, and get our fellow members to help us, we can help our patients and the public more and leave a much better impression with the patient and the public.

Dr. Grady N. Coker (Canton): I still contend that the best way to instruct the lay public is to include a course in the public schools on first aid and transportation of fracture cases. The time to train the lay public is when they are children.

In regard to first aid treatment I think every physician and surgeon should be required once a year to give a course in first aid treatment. During the past three years I have had the privilege at three or four different times to conduct a first aid class, two of them American Red Cross and one or two to the local Boy Scout troops. You will be surprised, after going to medical school for four years, maybe spending an internship in a hospital, and doing postgraduate work and all of those things, how little you know about ordinary injuries; the things that happen right around home. I think it would do all of us good to teach that course once a year. It would not only do the public good but it would do you good, too.

Dr. Robert L. Rhodes (Augusta): I just want to clarify two points: It is all right to use iodine, methiolate, mercurochrome or other antiseptics on the outside; that is, on the skin, but keep them out of the wound where they produce a coagulative necrosis, which is an excellent culture medium, and defeats their very purpose. At least, that is the way I feel about it.

In reply to Dr. Blackburn, I do scrub the outside (the skin) very vigorously, frequently with a scrub brush, certainly with sponges and tincture of green soap. This should be done thoroughly before the inside of the wound is touched. Then with sponges, soap and water wash out the wound to its very bottom, the ends of the bones, the medullary canal and pay

particular attention to the pockets beneath the detached periosteum. It takes soap, water and scrubbing to get dirt out, just as it does from under the finger nails.

Dr. Harry L. Cheves (Union Point): In reply to Dr. Simmons' question concerning traumatic psychosis, I may say that he has asked a question which if answered in the light of our present knowledge would require many pages. This question has been attacked from many angles and there are many phases which are debatable. There is that type of case which presents definite organic psychotic symptoms which render a patient in the category of the sick and this is very realistic to them, although most of them recover when placed on the proper therapy. There is that class whom we see, especially in these times, that require "green-back plasters" for complete recovery. Our burden is the proper classification of these cases. Foster Kennedy has given this subject in full in his article which appeared in *Archives of Neurology and Psychiatry*, Vol. 27, page 811, April, 1932.

Mr. Grover Middlebrooks (Atlanta): I would like to add a few words to the suggestion by Dr. Bunce, that malpractice suits are sometimes begun because of remarks made by other physicians. That is true. I do not think that physicians say things maliciously in criticism of other physicians, but they do sometimes make careless remarks, indicating that they would have adopted a different mode of treatment than that used by another physician. In a case where a patient has clearly been wronged, no one is under a duty to cover up the wrong, but you should remember that there may be several modes of treatment and the one to be used is to be determined by the judgment of the physician in charge of the case, and the fact that you would have adopted a different course is no indication that the other physician was negligent. The safe course to follow is not to criticize another's work.

DEGREE AND PREVALENCE OF VITAMIN A DEFICIENCY IN ADULTS, WITH NOTE ON ITS EXPERIMENTAL PRODUCTION IN HUMAN BEINGS

Vitamin A deficiency is common in adults and varies from a photo-metrically detectable phase to the complete clinical syndrome. In a group of 162 medical students studied by HAROLD JEGHERS, Boston (*Journal A. M. A.*, Sept. 4, 1937), 35 per cent had low photometer readings and 12 per cent had clinical manifestations of the deficiency. The chief manifestations, in the order of their frequency, were night blindness, photophobia, dry skin, dry conjunctivae, blepharitis and follicular hyperkeratosis. The factors producing the deficiency were analyzed and showed that the skipping of meals and poor choice of foods were chiefly responsible. After dietary analyses it was concluded that 4,000 international units of vitamin A daily represent the minimal requirement for a healthy adult. Infections were more numerous and severe among the deficient students. Further evidence that it is dangerous for the hemeralope to drive an automobile at night was obtained. Photo-metric evidence of night blindness appeared in six days and subjective evidence in five weeks after the production of a pure vitamin A deficiency in an experimental subject, night blindness preceded gross epithelial changes.

A REVIEW OF THE COMPLICATIONS FOLLOWING THE ADMINISTRATION OF SULFANILAMIDE*

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Atlanta

During the year that has passed since Long and Bliss⁹⁴ announced the use of sulfanilamide to the American medical profession at the 1936 meeting of the Southern Medical Association, there have appeared in the English and American literature more than 150 articles on sulfanilamide and its derivatives. The spread of the use of this drug has been so astounding that it might be well to pause here to review this increasing literature and to pay special attention to the complications that may follow the administration of sulfanilamide or its derivatives.

About 27 years ago Prof. Heinrich Hörlein,⁸⁷ now director of *Interessen Gesellschaft Farbindustrie*, a German dye company of which Bayer Company is a subsidiary, was attempting to make a better wool dye. He found that azo dyes with sulfonamide would enter into a more intimate combination with the protein of the wool than dyes free from sulfonamide. As early as 1913 Eisenberg¹⁵⁸ observed that certain azo dyes possess considerable bactericidal action in vitro and considered the possibility of the application of chrysoidin to therapeutics. Working with azo dyes under Prof. Hörlein, Domagk⁵⁰ noticed an increased activity of compounds containing sulfonamide in the treatment of streptococcal sepsis of mice. With the aid of the chemists Mietzsch and Klarer, he synthesized a large number of compounds which exerted some favorable activity on streptococci. In 1932 what is now known as *Prontosil* was synthesized, followed by *Prontosil Soluble*. The former was first issued under the name of *Streptozone*. The first report of its use appeared in the German literature in 1933 and five reports upon its clinical use were published⁹⁷ before Domagk's report appeared Feb. 15, 1935. Somewhat less successful results were reported May 13, 1935, in France by Levaditi and Vaisman⁹³ using a similar compound synthesized by Girard. The first paper in English was presented by Prof.

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Hörlein before the Royal Society of Medicine Oct. 3, 1935. The first clinical use of Prontosil and Prontosil Soluble in England was reported by Colebrook and Kenny³⁴ June 6, 1936.

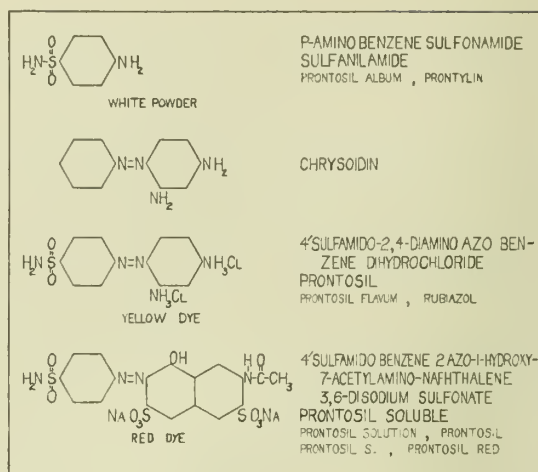
On Nov. 23, 1935, J. et Mme. Tréfouél, Nitti and Bovet¹⁵¹ read a paper showing that azo compounds which did not contain a sulfonamide group attached to one benzene nucleus were inactive, whereas the substituent groups in the other nucleus could be varied considerably without influencing the protective power. They concluded that animals could break down the compounds with the formation of para-aminobenzenesulfonamide. That para-aminobenzenesulfonamide is the active ingredient was confirmed by Buttle, Gray and Stephenson,²⁶ Colebrook, Buttle and O'Meara,³⁶ and Fuller⁶² in England and by Bliss and Long¹²⁹⁴ in America. Theoretically 1 cc. of Prontosil Soluble 2.5 per cent, if completely reduced, is equivalent to 7.3 mg. of para-aminobenzenesulfonamide. On April 17, 1937, the Council on Pharmacy and Chemistry of the American Medical Association⁴⁴ adopted sulfanilamide as the non-proprietary name for para-aminobenzenesulfonamide.

In Fig. 1 are shown the relations between chrysoidin, sulfanilamide, Prontosil, and Prontosil Soluble. The original Prontosil is quite insoluble and is not available commercially in this country. As a result, unfortunately, Prontosil Soluble is frequently referred to simply as Prontosil, thus confusing the literature.

The success of sulfanilamide has stimulated investigators in chemotherapy to intensify their search for a product that will be even more effective against microorganisms and less toxic to the human organism. Some of the products that have received attention include diaminosulphonate,²⁸ dinitrosulphonate,²⁸ di-sulphanilamide,¹³⁶ and para-benzylaminobenzenesulphonamide (benzylsulphanilamide).^{66 160} Of these benzylsulphanilamide^{121 127 145} has had the widest clinical use.

Mode of Action

The mode of action is still uncertain. The controversy revolves about the question of whether sulfanilamide is bactericidal as well as bacteriostatic^{14 34 36 56 94 95 116 158} and whether



phagocytosis is increased by the drug.^{43 56 69 95}

Whatever the reason the efficacy of the drug seems greater in vivo than in vitro.¹¹⁶ Pharmacologically, sulfanilamide has almost no action on smooth muscle, cardiac muscle or blood pressure.⁷⁷ It is absorbed fairly rapidly from the intestinal tract, after which it resembles urea and ethyl alcohol in its equal distribution in the organism.¹⁰⁷ It is excreted almost solely by the kidney. Marshall, Emerson and Cutting¹⁰⁶ found in a few determinations that a large percentage of the sulfanilamide which was filtered through the glomeruli seemed to be resorbed by the tubules of the kidney. The clearance of sulfanilamide was independent of the plasma level and it was increased by an increased rate of urinary excretion. Therefore, *the forcing of fluids is the best antidote now available for an overdose of sulfanilamide.*

Dosage

The dosage of sulfanilamide given by different investigators has varied. The largest dose noticed in the literature was that given by Foulis and Barr⁵⁸ to a woman with severe puerperal sepsis. It consisted of 14.4 grams daily for four days, then 7.2 grams daily for three days, or 79.2 grams in seven days. This dosage was tolerated well except for slight cyanosis. A more definite goal for dosage was set when Marshall, Emerson and Cutting^{103 104} described a method for determination of free and conjugated sulfanilamide in the blood and urine. The conjugated form is para-acetylaminobenzenesulfonamide;¹⁰² it is inactive.⁸³ Attempts should be made to attain a blood level of 10 to 15 mg. per cent.⁹⁶ For urinary infections at least 50 mg.⁸¹ and,

for optimum effect, 200 mg. per 100 cc. of urine should be obtained. The drug is more effective in an alkaline urine.^{82 83}

Uses

Sulfanilamide has been used for many of the ills of man and almost daily one hears of other diseases that the drug is being asked to conquer. Following is a list of organisms and infections against which sulfanilamide has been reported as effective either clinically, in animal experiments, or in vitro:

- Brucella abortus*^{8 71}
- Clostridium welchii*^{14 15 99}
- Gonococcus*^{5 21 33 38 45 46 55 57 84 112 124 132 156}
- Meningococcus*^{15 23 26 27 96 111 130 142 163}
- Plasmodium falciparum* (Estivo-autumnal malaria)⁸⁵
- Plasmodium malariae* (Quartan malaria)¹⁵⁴
- Plasmodium vivax* (Tertian malaria)^{47 85}
- Pneumococcus*^{96 134 135}
 - Type I (in mice or rats)^{18 70 94 115}
 - Type II (in mice or rats)^{43 94}
 - Type III (in mice or rats)^{41 42 68}
 - Type III (in humans)^{78 119}
- Streptococcus, beta hemolytic*—
- Groups A, B, C, E^{13 36 41 94 96 114 131 144}
 - Cellulitis*^{94 95}
 - Cystitis*^{94 95}
 - Empyema*^{22 127}
 - Erysipelas*^{6 11 19 20 21 94 95 111 127 147}
 - Impetigo, Chronic*⁹⁴
 - Ludwig's Angina*^{94 95 101 125}
 - Mastoiditis*^{73 111 152 153}
 - Meningitis*^{1 4 6 30 51 60 73 74 98 99 100 108 115 118 141 146}
^{150 155 157}
 - Osteomyelitis*^{25 95}
 - Otitis Media*^{20 94 95}
 - Peritonitis*^{94 95 111}
 - Puerperal Sepsis*^{34 35 37 52 55 64 95 127}
 - Scarlet Fever*^{94 95 127}
 - Septicemia*^{21 30 32 35 94 95 110 111 133 152 161}
 - Septic Parotitis*⁷²
 - Tonsillitis*^{20 94 95 127 137 145}
- Streptococcus, alpha (viridans)*^{31 88}
- Urinary Tract Infections due to:
 - Aerobacter aerogenes*^{39 79 80 82 90}
 - Escherichia coli* (*B. coli*)^{17 39 57 79 80 82 90 156}
 - Proteus vulgaris*^{79 82 90}
 - Pseudomonas aeruginosa*^{79 80 82 84}
 - Staphylococcus aureus*^{39 57 79 80 82 84 156}
 - Streptococcus*³⁹ (but not Beta hemolytic, Group D¹³ or *Streptococcus fecalis*^{57 79 80 82})
- Some protection against:
 - Eberthella typhi* (*B. typhosum*)²⁷
 - Hemophilus hemolyticus*⁹⁴
 - Hemophilus influenzae*^{94 129}
 - Klebsiella pneumoniae* (Friedlander's bacillus)²⁷
 - Micrococcus tetragenus*⁹⁴
 - Pasteurella pseudotuberculosis*²⁷
 - Pasteurella septica*²⁷
 - Salmonella aertrycke*²⁷
 - Salmonella schottmüllerri* (*B. paratyphosum* B)²⁷

The beneficial results of sulfanilamide

therapy are shown most conclusively by statistics in hemolytic streptococcal meningitis. From 1900 to 1937 there were 99 proved cases which recovered.¹⁵⁰ During this period the mortality rate was usually given as 99 per cent. Since the advent of sulfanilamide there have been 28 recoveries with the use of this drug as reported in the articles referred to in the above list. Long and Bliss⁹⁸ have stated that Arnold, since his first report,⁴ has had five additional recoveries. They stated further that they have knowledge of 28 cases of hemolytic streptococcal meningitis treated with sulfanilamide or its derivatives of which 24 recovered. This gives a mortality rate of only 14 per cent as compared with the 99 per cent estimated for patients not treated with sulfanilamide.

The list given above is impressive in its length and variety. However, there are many organisms that are not affected by sulfanilamide, and a beneficial effect has not been conclusively shown for all of the members of the above list. Massell¹⁰⁹ reported no benefit from the use of sulfanilamide in acute rheumatic fever. Anwyl-Davies² was distinctly disappointed with the results he obtained in 39 cases of acute gonococcic urethritis.

Symptoms

After the ingestion of sulfanilamide the following symptoms have occurred: general malaise, lassitude, weakness, fatigue, exhaustion, sleepiness, "stiffness," "punch drunk," headache, tinnitus, dizziness, mental confusion, loss of memory with deafness, sensation similar to alcohol intoxication, hyperpnea, anorexia, nausea, vomiting, "indigestion," general intestinal disturbance, diarrhea, constipation, difficulty in micturition, slowing of and loss of force of urinary stream, paresthesiae, sensitiveness of skin of lower extremities, and tingling of the toes. Some of these symptoms may appear about six hours after ingestion of 3 grams of sulfanilamide. The patient is much more likely to have symptoms if he is ambulatory while taking the drug. These symptoms usually subside in 24 to 48 hours after the medication is discontinued. During the time that an individual is under the influence of this drug, he should not fly or drive a motor vehicle. Cook⁴⁰ has stated his belief that approxi-

mately 10 per cent of all individuals cannot tolerate the drug.

Signs

The use of Prontosil or Prontosil Soluble produces a red urine, pink skin and mucous membranes. Colebrook and Kenny³⁴ reported that these dyes were mildly irritant to the urinary tract tissues. In a series of 38 cases 75 per cent shed epithelial cells in varying numbers; 40 per cent passed erythrocytes, few casts; and 20 per cent showed a slight increase of albumin in the urine. However, no late or permanent ill effect was noted. Mitchell and Trachsler¹²⁰ reported hematuria following 225 cc. of Prontosil Soluble and 2.66 Gm. of sulfanilamide. Foulis and Barr³⁸ reported two cases of mild albuminuria following ingestion of sulfanilamide.

On Oct. 11, 1937, the *American Medical Association* received notice of the first death due to ingestion of a proprietary product labeled Elixir of Sulfanilamide-Massengill. By Nov. 11 a total of 73 deaths due to this preparation had been reported.⁵⁴ Intensive chemical, pharmacologic, and pathologic investigations^{29 63 86 91 139} have exonerated sulfanilamide as the cause of these deaths. It has been shown that diethylene glycol, which was present in the Elixir of Sulfanilamide-Massengill in approximately 72 per cent by volume, is a very toxic substance and a cumulative poison. The general pathologic picture was that of a severe chemical nephrosis with intracellular edema of most of the epithelial cells of the convoluted tubules, resulting in tubular obstruction by compression and by the intraluminal formation of casts. This picture following anuria and death was the same in animals that received a 75 per cent solution of diethylene glycol alone, and the Elixir of Sulfanilamide-Massengill.

Since these unfortunate deaths followed anuria due to tubular obstruction, it might be well to keep in mind the report of Oakley.¹²³ He noted that a majority of mice given by mouth a single large dose (40 mg.) of Prontosil or repeated small doses (1 mg.) became deeply pigmented, ill and died. At necropsy Prontosil was found in the urinary bladder and gallbladder. The kidneys were much enlarged and contained considerable quantities of Prontosil in concretions in the

straight and convoluted tubules as far back as Bowman's capsule. The Prontosil (0.25 per cent soluble in water) was precipitated in the presence of urinary salts in the concentration present in the renal tubules.

In experimental animals large doses of sulfanilamide have produced nervous signs somewhat resembling those of decerebrate rigidity.^{77 94} Nervous complications have been rare clinically. Bucy²⁵ has reported the case of a girl with osteomyelitis who was given sulfanilamide on 3 separate occasions. The first 2 times unpleasant symptoms occurred; the last time a severe loss of vision due to toxic optic neuritis occurred after the administration of a single tablet (0.3 Gm.) of the drug.

Cyanosis

Cyanosis is the most conspicuous and a very frequent sign after administration of sulfanilamide. Long and Bliss⁹⁹ have noted it in 90 per cent of the patients treated with sulfanilamide. Carey³⁰ reported its presence in 31 of 38 patients. Hageman⁷³ found cyanosis associated with methemoglobinemia in approximately 50 per cent of 68 patients. The cyanosis varies from mild bluing of the lips to a rather intense slaty discoloration of the lips and nail beds. Long and Bliss⁹⁶ have seen cyanosis appear five hours after beginning treatment and disappear in a few days while intensive treatment was being continued.

Long and Bliss,⁹⁶ Paton and Eaton,¹²⁶ and Bensley and Ross⁷ are on record as believing that cyanosis is not an indication to stop the administration of sulfanilamide in most cases. However, since as much as 60 per cent³ of the hemoglobin may be changed to an inert form, continuation of treatment may be dangerous in a patient with anemia. Frost⁶¹ reported a fatal case in which the signs just before death were those of respiratory failure; necropsy showed no other cause for death.

Several investigators have found methemoglobinemia and sulfhemoglobinemia the cause of the cyanosis following administration of sulfanilamide. The exact mechanism of the formation of these pigments and the relative importance of each are still in dispute. These pigments are most accurately detected with a spectroscope. Dilution of the blood with 0.4 per cent ammonia destroys the alpha band of

methemoglobin, but does not affect that of sulfhemoglobin.⁴⁸ Both may be present at the same time.^{53 75} Some workers believe that methemoglobinemia appears after large doses of sulfanilamide,¹²⁶ but it with cyanosis has been demonstrated after one gram of sulfanilamide.⁷

Severe cyanosis due to methemoglobinemia seems to be aided by oxygen therapy,^{20 126 149} while that due to sulfhemoglobinemia is not influenced by oxygen therapy. Wendel¹⁵⁹ reported a rapid, marked reduction of methemoglobin following a single intravenous injection of 1 mg. of methylene blue per kilogram of body weight. Methemoglobin disappears 24 to 48 hours after sulfanilamide is stopped.^{3 7 126} Sulfhemoglobin has been detected six weeks after cessation of the drug.¹²⁶

Colebrook and Kenny,³⁴ Discombe,⁴⁸ Frost,⁶¹ and Paton and Eaton¹²⁶ reported the first 14 proved cases of sulfhemoglobinemia following sulfanilamide or its derivatives. Of these 14 cases, 11 had received magnesium sulfate and one had had sodium sulfate dressings previous to the administration of sulfanilamide. These authors have warned against the use of sulfates in conjunction with, or 2 to 3 days before the administration of sulfanilamide. Since these first reports of sulfhemoglobinemia there have been reports of other cases in which sulfates had not been used.^{53 96}

Archer and Discombe,³ by an *in vitro* experiment, have shown that sulfanilamide has a catalytic action in the formation of sulfhemoglobin from hemoglobin and sulfides. Their explanation for the formation of sulfhemoglobinemia following sulfanilamide was that hydrogen sulfide was absorbed from the intestinal tract and, aided by this catalyst, formed sulfhemoglobin which accumulated in the erythrocytes until the cells were destroyed. They explained the action of magnesium sulfate in stimulating the formation of sulfhemoglobinemia on its cathartic and osmotic action rather than on the vague possibility of the sulfate being reduced to a sulfide. To prevent or delay the formation of sulfhemoglobinemia they recommended cleansing the colon with enemas before starting treatment, 20 to 45 cc. of mineral oil daily, and a low residue diet with only a few eggs.

Marshall and Walzl¹⁰⁵ did not deny that

sulfhemoglobin as well as methemoglobin may occur under certain conditions after the administration of sulfanilamide, but they considered these abnormal iron pigments were probably not the main explanation of the cyanosis. They observed that the dark color of the blood may be due to the presence of a black oxidation product of the drug which stains the red blood cell. Long and Bliss⁹⁹ have been uncertain whether patients treated with sulfanilamide develop sulfhemoglobinemia.

Acidosis

Southworth¹⁴⁸ reported 2 cases of clinical acidosis following medication with sulfanilamide. The carbon dioxide combining power of the plasma fell to 36.2 and 27.7 volumes per cent. The first patient returned 2 months later without fever or infection and took approximately the same dosage of sulfanilamide—6.9 Gm. in 60 hours. The carbon dioxide combining power fell from 59.8 to 37.2 volumes per cent though there was no definite clinical evidence of acidosis. He then studied 15 consecutive sulfanilamide treated patients for changes in carbon dioxide combining power. The initial determination on these patients who had fever and infection before the administration of sulfanilamide varied from 54.1 to 65.5 volumes per cent. Each of the 15 showed a decrease after therapy; the average decrease was 14.1 volumes per cent. There was no clinical evidence of acidosis. Long and Bliss⁹⁶ also believed that the hyperpnea was the result of acidosis. They reported 4 cases of clinical acidosis—air hunger and alkaline urine without ketonuria. To them the fall in carbon dioxide combining power seemed to be associated with a marked loss of sodium and potassium in the urine; they have routinely given 0.65 Gm. of sodium bicarbonate with each dose of sulfanilamide to prevent this decline.

In opposition to the idea that hyperpnea resulted from acidosis in these cases, Basman and Perley⁶ found that large doses usually caused hyperventilation which may be mistaken for dyspnea or acidosis. In subjects who otherwise had no good reason to develop acidosis, such hyperventilation quite uniformly was noted, together with a reduction of 10 to 15 volumes per cent of the carbon dioxide content of the blood. They found

the urine regularly above pH 7 which they believed indicated that the blood change was a carbon dioxide deficit type of alkalosis, in response to primary hyperventilation, and not one of mild acidosis. Both groups have advised 1/6 molar sodium lactate for acidosis.

Fever and Rash

Long and Bliss⁹⁴ have described the development of fever of 102 to 103 degrees F. in 8 to 12 hours after subcutaneous injection of 100 cc. of Prontosil Soluble, which lasted for 12 hours. Fever due to the drug will usually subside within 24 hours after the drug is stopped. Febrile reactions following the administration of sulfanilamide have been reported by other investigators.^{30 84 120 127}

In a series of 134 patients treated with sulfanilamide Hageman and Blake⁷⁴ found what they called "drug fever" occurring in 21 patients, 7 to 10 days after institution of therapy. The fever which ranged from normal to 106 degrees F. with an average duration of 2 to 4 days, was accompanied by a morbilliform rash in 9 patients. The analogy of the time interval, fever, and rash to serum sickness was considered. An increasing number of cases of rash, almost universally accompanied by fever, has been reported.^{33 65 138}

^{140 143} The rash has been most often described as morbilliform or scarlatiniform. In addition to the macules and papules, vesicles, purpuric areas, urticaria and edema may occur. The lesions may be discrete or confluent, localized or general over the body. Pruritus may or may not be present. After subsidence of the rash a recurrence sometimes may be caused by readministration of the drug. A few patients with this rash have given positive skin reactions to patch or scratch tests with sulfanilamide.

On Sept. 25, 1937, three articles^{59 117 122} were published definitely connecting the appearance of a rash while ingesting sulfanilamide to a preceding exposure to the sun. The rash appeared on the areas which had been exposed to the sun 12 to 24 hours previously. Other articles^{24 67} have confirmed this photosensitizing effect of sulfanilamide.

Anemia

Harvey and Janeway⁷⁶ have reported 3 cases of acute hemolytic anemia in which the hemoglobin rapidly dropped to 18 per cent, 30 per cent, and 40 per cent. The anemia was

promptly improved and symptoms disappeared after cessation of the drug and transfusions of citrated blood. These authors called attention to the resemblance to hemolytic crises produced by phenylhydrazine. Since the above report, Bohlman¹⁰ reported that Janeway has noted 8 additional cases of acute hemolytic anemia, one with hemoglobinuria and uremia following sulfanilamide. Long and Bliss⁹⁸ have seen 7 cases, of which 6 had jaundice. All recovered. Kohn⁹² reported the case of a white girl, aged 1, who developed acute hemolytic anemia with a drop in hemoglobin from 12.5 Gm. to 6.0 Gm. after 3.6 Gm. of sulfanilamide had been administered in four days. The urine contained albumin, hemoglobin, urobilin, erythrocytes, leukocytes, and many casts. Recovery was uneventful after transfusions. A case reported by Carey³⁰ showed a drop in erythrocytes from 5 million to 2 million per cubic mm. after 52 Gm. of sulfanilamide had been given in 10 days. McQuarie¹¹³ reported a case of marked hemolytic anemia developing in a child after 4 days of Prontosil Soluble and sulfanilamide therapy. This patient died in spite of transfusions.

Jaundice naturally occurred in a large number of the cases of hemolytic anemia. In other cases of jaundice, the drug has not been definitely incriminated. The first case of Harvey and Janeway⁷⁶ showed a 30 per cent retention of bromsulfalein at 30 minutes. Their second case showed a 28 per cent retention at 30 minutes (5 mg. per kilo). Both returned to normal. A patient of Hageman and Blake⁷⁴ had a bromsulfalein retention of 40 per cent associated with a febrile reaction. Eleven days after discontinuance of the drug, there was still a 30 per cent retention at 30 minutes.

Agranulocytosis

Several investigators^{9 109 111 153} have reported cases of neutropenia associated with the administration of sulfanilamide in which the leukocyte count returned to normal when the drug was discontinued. Eight cases* of agranulocytosis following the use of sulfanilamide or its derivatives have been found in the English and American literature. Six died and two recovered.

*Best¹⁰ has reported the readmission of a Negro male, aged 38, with agranulocytosis who recovered. The data were not sufficient to warrant inclusion of this case in my list.

Plumer¹²⁸—a female, aged 54, took 46.6 Gm. of sulfanilamide in 35 days. The leukocyte count was 400 per cubic mm., with no granulocytes, 3 days after the drug was stopped for nausea and vomiting. On the next day with the leukocyte count 1600, the patient died.

Borst¹⁷—a female, aged 61, took 62.4 Gm. of Pron-tosil Flavum in 38 days. The leukocyte count was 1225 per cubic mm., with 3 per cent granulocytes, the day after the drug was stopped because of questionable influenzal pneumonia. The next day with the leukocyte count 960, with 1 per cent granulocytes, the patient died.

Young¹⁶²—a male, aged 53, took 54 Gm. of sulfanilamide in 18 days. The leukocyte count was 1800 per cubic mm., with no granulocytes, 4 days after the drug was stopped because patient was clinically worse. The next day with the leukocyte count 2300, with no granulocytes, the patient died. The bone marrow showed an absence of granules in all cells.

Mitchell and Trachsler¹²⁰—a child took an increased dosage at home, was readmitted with a marked agranulocytosis, severe anemia and necrotic stomatitis. The patient died.

Bernstein⁹—a negress, aged 6 months, received Pron-tosil 35 cc. and sulfanilamide 17.3 Gm. in 26 days. No granulocytes were found 3 days after the drug was stopped. Nine days later the patient died.

Model^{121 49}—a male, aged 20, took 3 Gm. of benzylsulfanilamide (Proseptasine) daily for 18 days. Two days after drug was discontinued because of no improvement, the leukocyte count was 600 per cubic mm. The next day with the leukocyte count 1000, with no granulocytes, the patient died.

Jennings, Southwell-Sander⁸⁹—a female, aged 39, took 94.5 Gm. of sulfanilamide between June 30 and July 19, 1937. On July 24 the patient had a pharyngitis with grayish exudate. By July 27 the leukocyte count had fallen to 444 per cubic mm., with no granulocytes. Pentnucleotide was given. The leukocyte count rose to a maximum of 22,000, with 66 per cent granulocytes, on Aug. 3. The patient recovered.

Hoffman¹⁶⁴—a negress, aged 19, took 49.2 Gm. of sulfanilamide between July 9, 1937 and her discharge from Grady Hospital on July 27. On Aug. 1, 1937, patient was readmitted with a leukocyte count of 1350, with no granulocytes. She was given 3 transfusions. Granulocytes were next seen on Aug. 5. Leukocytes reached a maximum of 37,300 on Aug. 7. Patient recovered.

It is interesting to note that in a majority of these cases, the agranulocytosis was not discovered until several days after the drug had been discontinued. This complication has followed the use of Pron-tosil and benzyl-sulfanilamide as well as sulfanilamide.

Summary

1. The history, mode of action, and dosage of sulfanilamide are discussed briefly.
2. The uses of the drug are listed.
3. Symptoms that have followed the in-

gestion of the drug are given.

4. Renal and neurologic complications are mentioned. Cyanosis, acidosis, fever and rash, acute hemolytic anemia, and agranulocytosis are discussed in detail.

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DOUGHERTY COUNTY WOMAN'S AUXILIARY

Mrs. J. M. Barnett, chairman of the Woman's Auxiliary of Dougherty county, has the honor of being the first woman in Georgia to actively campaign for funds for The Public Relations Bureau of THE MEDICAL ASSOCIATION OF GEORGIA. Working under the direction of Mrs. Ralph H. Chaney, president of the Woman's Auxiliary to the State Medical Association, Mrs. Barnett and other members of the Dougherty County Woman's Auxiliary have made a most creditable showing for their county, which is reflected by the records of the office of the Secretary-Treasurer.

The officers of the Association congratulate the Dougherty County Woman's Auxiliary, and thanks its members for their work in obtaining funds for a department of THE MEDICAL ASSOCIATION OF GEORGIA which, it is believed, will serve a definite purpose in aiding our profession as well as educating the public.

THE JOURNAL

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Devoted to the Welfare of the Medical Association of Georgia

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PUBLIC RELATIONS BUREAU

The purpose of the Public Relations Bureau of THE MEDICAL ASSOCIATION OF GEORGIA is to acquaint our own members, and those physicians in Georgia outside our membership, of the need for concerted and positive action with regard to suggestions being made in the manner of distributing medical care. Resolutions demanding regimentation of our profession have been introduced into Congress by those outside our ranks, and such are subversive of our interest and welfare; and, we believe, not in the interest of the people as a whole nor those whom they profess to benefit. Once our freedom as individuals has been surrendered nothing short of destructive revolution can change our status. It is a distinct reflection upon our organized ability that plans are made for us, and implies that the medical profession is incapable of managing its own affairs. We believe the physicians of our country have as high level of intelligence as any body of men, and we can combat these revolutionary proposals provided our own members exert that united influence of which we are capable.

We wish to instruct the public through radio talks, newspaper articles, talks before civic and women's clubs and in any other dignified and ethical manner that presents itself. The subjects of these addresses are to be on matters of health and diseased conditions; as examples, automobile accidents, maternal welfare and maternal mortality, tuberculosis, malaria, pellagra and venereal diseases. Also, we hope to give information as to the desirability of having certain laws passed that would redound to their interest, especially a law that would allow counties to appropriate money to take care of their medically indigent, and the passage of a basic science law. This latter will elevate the healing art. We must "take the people into our confidence"

if we wish cooperation and expect to continue to enjoy that liberty which all of us take for granted, and which has been bequeathed to us as the most priceless heritage any human can enjoy.

While the committee desires as large contributions as possible, yet we would rather have every doctor in Georgia contribute a small amount as then he would feel that he had a real interest in our program. The average is \$50 for each member, payable \$10 a year.

GEO. A. TRAYLOR, M.D., *President.*

SAFETY FACTORS IN RELATION TO BLOOD PRESSURE

The pressure of blood in the arteries is necessary for continuation of life. It is maintained by the heart which forces blood into the arteries in a quantity sufficient to stretch them appreciably before it can escape through the arterioles and out into the capillaries. The degree of arterial stretch determines the blood pressure and is, in turn, determined by the amount of blood in the arteries, stretching the arterial reservoir. The arterial pressure is therefore determined by the relation of the volume of blood which escapes from the arteries and the regulation of blood pressure depends upon influences which impinge upon this entrance and this exit; that is, it depends upon the regulation of the heart and of the arterioles.

The normal heart is competent to do whatever task the body sets. At the start of exercise the muscles may pump blood back through the veins at a rate five times the resting value. This blood accumulates in the great veins and in the lungs, to be pumped out by the heart as fast as it is called for by the muscles. Within less than a minute's time—as the exercise continues—the stream of blood issuing from the heart has also increased to equal the stream which has been coming back—a five-fold increase in blood flow. This change would involve a five-fold increase in blood pressure if other adjustments were not being automatically made which keep the fluctuations of blood pressure within the safe limits of 30 per cent.

The manner of these adjustments is as follows: In the arch of the aorta, and in the walls of the carotid sinus are delicate sense

organs which send nervous impulses to the medulla. The frequency of these impulses is directly proportional to the pressure within the great arteries. As their frequency is increased, the heart is slowed by the vagus and the arterioles relaxed by their nerves. These adjustments follow the needs of the body and maintain the arterial pressure within safe limits.

The above adjustments are well known safety factors to physiologists. They are, in fact, familiar to most physicians. As a result of newer methods of recording human blood pressure, very rapid and extensive fluctuations have come into view. Workers in the University of Georgia laboratories have proved that during a cough or sudden strain the arterial pressure may double within a fraction of a second, to fall again to normal when the effort is over.

The quickness of these changes has caused them to escape the notice of earlier workers. But their extent has led to the query, "How has nature guarded against unfortunate results of these sudden, unphysiologically extensive increases in arterial pressure?"

These fluctuations are not counteracted by reflex mechanisms as are the potential fluctuations resulting from changes in blood flow. They are counterbalanced in the making by the very forces which produce them. The process of coughing involves a sudden increase in intrathoracic pressure to a value of 50 to 150 mm. Hg. It is this pressure, squeezing down upon the heart and great vessels and being propagated out the arterial tree, which is responsible for the above mentioned fluctuations in arterial pressure.

If, by means of two delicate and quickly responding optical pressure recorders, we take two simultaneous photographic tracings, one of the intrathoracic pressure and the other of the arterial pressure, we find that the arterial pressure exceeds its normal value by the identical figure that the intrathoracic pressure exceeds its normal value. In fact, if we subtract point for point, the intrathoracic curve from the arterial pressure curve, we have left a perfectly even "net" arterial pressure curve that goes about its pulsations completely unaffected by the cough which has caused a precipitous doubling of the height of the "gross" arterial pressure.

Now it is this net pressure which actually irrigates the vital internal organs. If the gross pressure did not rise, the blood supply to these organs would cease during a paroxysm of coughing. If the gross pressure rose without a compensating increase in the intrathoracic pressure, the arteries of the thoracic organs would have to withstand a dangerous increase in the stress tending to burst them. With the natural relationships as they are, and both internal and external pressures going up at the same instant, the arterial wall is saved all strain and the vital organs receive their blood uninterruptedly.

What has been said so far applies to the organs within the thorax. The safety mechanism by which the coronary and pulmonary vessels are guarded is beautifully adapted to its purpose. The brain and spinal cord, however, are quite as delicate and vital as any of the intrathoracic organs. It is even more important that they be protected because, when damage is done, repair cannot be made in the nervous tissue as it can in muscular, epithelial or connective tissues. The need of a protective mechanism is evident and it would be strange indeed if, in the millions of years during which nature has been perfecting our bodily mechanisms, she had not worked out how to protect our brains from the dangers consequent upon coughing.

The simultaneous rise in arterial pressure insures that the increased intraspinal pressure does not stop off even for an instant the supply of blood to the brain.

The peripheral systemic arteries go to less vital organs and are not protected in this fashion. The abdominal arteries are partly protected.

It has been a pleasure to a small enthusiastic group of workers in a University of Georgia laboratory to have been able to gain first hand information concerning the manner in which nature has solved this problem. The problem itself seems more important to these men than it may to others. Nevertheless, it is a part of the great plan of functional organization and, therefore, very intimately the business of physiologists, and physicians too.

W. F. HAMILTON, PH.D.

WOMAN'S AUXILIARY

OFFICERS 1937-1938

President—Mrs. Ralph H. Chaney, Forrest Hills, Augusta.

President-Elect—Mrs. Warren A. Coleman, Eastman.

First Vice-President—Mrs. H. G. Banister, Ila.

Second Vice-President—Mrs. J. Lon King, 223 Buford Place, Macon.

Treasurer—Mrs. W. A. Selman, 760 Penn Avenue, N. E., Atlanta.

Third Vice-President—Mrs. R. S. O'Neal, La-Grange.

Recording Secretary—Mrs. Cleveland Thompson, Millen.

Corresponding Secretary—Mrs. W. E. Matthews, Jr., 2804 Lombardy Center, Augusta.

Historian—Mrs. Clem Brannen, Moultrie.

FIFTH DISTRICT

The Woman's Auxiliary held its semi-annual meeting on October 7 at the Academy of Medicine in Atlanta. Mrs. Eustace Allen, president, presided at the meeting, which followed a buffet supper given by the society.

Dr. H. Cliff Sauls, president of the Fulton County Medical Society, brought greetings and introduced Dr. George A. Traylor, of Augusta, president of the Medical Association of Georgia. Dr. Traylor spoke on "Ways the Auxiliary Can Aid the Medical Association of Georgia." Dr. Paul H. Ringer, of Asheville N. C., discussed "Some Things About Tuberculosis the Layman Should Know." Mrs. Ralph H. Chaney, of Augusta, president of the Woman's Auxiliary, talked on "Our Obligation."

RICHMOND COUNTY

The Woman's Auxiliary was hostess at a health meeting recently at the Doughty Nurses' Home. The presidents, health chairmen and program chairmen of several organizations were guests.

Mrs. Ralph Chaney, president of the Woman's Auxiliary to the Medical Association of Georgia, and Mrs. Burpee, president of the Richmond county group, presided. Interesting and informative talks were given by Dr. Jos. Ackerman on "Prenatal Care"; Dr. G. T. Bernard on "Cancer"; and Dr. J. R. Robertson on "Venereal Diseases." Health literature was distributed.

Following the meeting tea was served by Mrs. Mathews, Mrs. Harper and Mrs. McGahee.

CHEROKEE-PICKENS COUNTIES

The Cherokee-Pickens Counties Auxiliary met recently with Mrs. Grady Coker at her home in Canton. Mrs. G. C. Brooke talked on "Correct Lighting of the Home." Mrs. C. J. Roper, of Jasper, reported on the state convention and Mrs. John Turk, of Nelson, reported on the Ninth District meeting.

Members present were Mesdames G. C. Brooke, J. R. Boring, John Turk, of Nelson; C. J. Roper, of Jasper; T. J. Vansant, of Woodstock; J. T. Pettit, J. A. Faulkner and Grady N. Coker, of Canton.

THIRD DISTRICT

The Woman's Auxiliary to the Third District Medical Society met in Columbus on November 10. The President-elect, Mrs. Loren Gary, Jr., of Shellman, presided in the absence of Mrs. E. B. Davis, of Byromville. Reports were made by all Auxiliaries and committees.

Officers elected were Mrs. J. Cox Wall, of Eastman, president-elect, and Mrs. W. G. Elliott, of Cuthbert, secretary-treasurer.

Mrs. Warren A. Coleman, of Eastman, president-elect of the Woman's Auxiliary to the Medical Association of Georgia, made a most interesting talk on organization.

Others making excellent talks were Mrs. Ralph Chaney, of Augusta, president of the Woman's Auxiliary to the Medical Association of Georgia; Dr. George A. Traylor, of Augusta, president of the Medical Association of Georgia, and Dr. Ross Brown, of the State Board of Health.

RANDOLPH COUNTY

The Woman's Auxiliary held its first fall meeting at the home of Mrs. W. G. Elliott in Cuthbert. Committees were appointed, plans were made for sponsoring a health film, health material was distributed and an interesting program on Jane Todd Crawford was prepared.

FULTON COUNTY

Membership is being stressed this year by the Woman's Auxiliary and new members are being welcomed at each meeting. Informal luncheons follow each meeting with a different committee in charge each month.

In October Mrs. H. B. Trimble gave an interesting review of "Behind the Doctor" and in November Dr. H. Cliff Sauls, president of the Fulton County Medical Society, gave an inspiring talk on "Socialized Medicine." A health program is being planned for January 7. Mrs. Stephen T. Brown is president of the Fulton group and Mrs. Mason Lowance is program chairman.

NEWS LETTER

Mrs. James P. Simonds, of Chicago, chairman of Press and Publicity for the Woman's Auxiliary to the American Medical Association, is most anxious to have Georgia Auxil-

ary members subscribe to the National News Letter. The information contained in the News Letters concerns the activities of the National and State Auxiliaries and should stimulate interest among the Georgia members. Provision has been made by the National Board of Directors whereby members of State and County Auxiliaries may subscribe for the National News Letter for one dollar (\$1.00) a year. Subscriptions should be sent to Mrs. Simonds at 25 East Walton Place, Chicago, Ill.

THE ATLANTA GRADUATE MEDICAL ASSEMBLY

PROGRAM

Tuesday

- 10:00 A. M.—Dr. John J. Morton—Prof. Surg., Univ. of Rochester. "Herniation Through the Diaphragm."
11:00 A. M.—Dr. Roesler—Assoc. Prof. Med., Temple University. "Hypertension with Particular Reference to Eyeground Studies and Treatment."
2:00 P. M.—Dr. Lazenby—Chief Surgeon, Maryland Casualty Co. "The Physician in Industry."
3:00 P. M.—Dr. A. Graeme Mitchell—Prof. of Pediatrics, Univ. of Cincinnati. "What I Don't Know About Endocrines."
4:00 P. M.—Dr. Morton—"Practical Problems in the Treatment of Cancer."
8:00 P. M.—Dr. Roesler—"Errors in the Diagnosis and Treatment of Heart Disease."
9:00 P. M.—Dr. Mitchell—"Some Factors of Importance in the Treatment of Diarrheal Conditions."

Wednesday

- 9:00 A. M.—Dr. Ralph Major—Prof. of Med., Univ. of Kansas. "Recent Advances in the Treatment of Diabetes Mellitus."
10:00 A. M.—Dr. Allen O. Whipple—Prof. of Surgery, Columbia Univ. Clinic—Diseases of the Biliary Tract.
11:00 A. M.—Dr. Eastman—Prof. Obstetrics, Johns Hopkins Univ. "Induction of Labor—Indications and Technic."
2:00 P. M.—Dr. Major—"A Consideration of Nephritis and Nephrosis."
3:00 P. M.—Dr. Sherwood Moore—Prof. Radiology, Washington Univ. "Hyperostosis Cranialis—Roentgenologically and Clinically."
4:00 P. M.—Dr. Whipple—"Pathogenesis and Differential Diagnosis of Splenomegaly."
8:00 P. M.—Dr. Major—"Diagnosis of Disease Without Instruments of Precision."
9:00 P. M.—Dr. Moore—"Body-section Radiography with the Laminograph. Roentgen Kymography."

Thursday

- 9:00 A. M.—Dr. R. A. Vonderlehr—Asst. Surg.

Gen'l Pub. Health Service. "The Control of Syphilis by Modern Treatment."

- 10:00 A. M.—Dr. Albert Key—Prof. Orthopedics, Washington Univ. "Diagnosis and Treatment of Acute Pyogenic Infections of Bones and Joints."
11:00 A. M.—Dr. Marion A. Blankenhorn—Prof. Med. Univ. of Cincinnati. "The Treatment of Lobar Pneumonia, with Special Reference to the Use of Specific Serum."
2:00 P. M.—Dr. Ernest Sachs—Prof. Neurosurgery, Washington Univ. "The Present Status of the Surgery of Brain Tumors."
3:00 P. M.—Dr. A. J. Bedell—Albany, N. Y. "The Ophthalmoscopic Signs of Constitutional Disease."
4:00 P. M.—Dr. Wm. A. Sandy—Director of Bureau Mental Health, Pa. "The Opportunities and Responsibilities of the Physician and Surgeon in Psychiatric Cases."
8:00 P. M.—Dr. Sachs—"Treatment of Head Injuries."
9:00 P. M.—Dr. Blankenhorn—"Pellagra—Diagnosis and Treatment."

Friday

- 9:00 A. M.—Dr. J. A. Colston—Prof. Urology, Johns Hopkins. Subject to be announced.
10:00 A. M.—Dr. Blankenhorn—"Undernutrition and Malnutrition—Dietary Treatment and the Use of Vitamin Concentrates."
11:00 A. M.—Dr. Harry Slack—Assoc. in Otolaryngology, Johns Hopkins. "Some Practical Considerations of Paranasal Sinus Conditions."

NEWS ITEMS

DR. THEODORE TOEPEL, Atlanta, was re-elected president of the Crippled Children League of Georgia at its meeting held in the Piedmont Hotel, Atlanta, on November 14th. The object of the organization is to help the Child Welfare Department of the State secure funds for the care of 8,000 crippled children in Georgia.

THE DECATUR-SEMINOLE COUNTIES MEDICAL SOCIETY met at Bainbridge on December 8th. The program consisted of paper, *Government Control vs. The Doctor* by Carl B. Welch, Attapulgus; address on *Allergy* by Dr. M. A. Ehrlich, Bainbridge. The next meeting of the Society will be held in Donalsonville in March.

THE JACKSON-BARROW COUNTIES MEDICAL SOCIETY met at Jefferson on December 6th. Dr. R. L. Rogers, Gainesville, spoke on *Vitamins*. Officers were elected for the ensuing year.

THE WARE COUNTY MEDICAL SOCIETY met at the home of Dr. W. F. Reavis, Waycross, on December 8th. Dr. and Mrs. Reavis with Dr. and Mrs. Lovick W. Pierce entertained the members of the Society and Auxiliary at dinner. Dr. J. W. Schereschewsky, Atlanta, discussed informally the feasibility of establish-

ing a Cancer Control Clinic in Waycross. Officers were elected for the ensuing year.

THE STAFF MEETING of the Crawford W. Long Memorial Hospital, Atlanta, was held on December 9th. The program consisted of: Reports of Committees; Discussion of Mortalities; case reports. *Acute Hemorrhagic Pancreatitis* by Dr. J. C. Blalock; *Carcinoma of the Cecum with Obstruction*, Dr. B. H. Clifton.

DR. AND MRS. V. L. HARRIS with DR. AND MRS. A. P. EVANS, all of Pinehurst, entertained the members of the Dooly County Medical Society and the Auxiliary at dinner in the home of Dr. and Mrs. Harris, on November 17th.

COMMITTEEMEN elected to serve on different sections of branches of medicine in the Southern Medical Association at the close of its meeting in New Orleans on December 3rd included: Dr. George A. Traylor, Augusta, chairman of the section on Railway Surgery; Dr. H. D. Allen, Jr., Milledgeville, Neurology and Psychiatry; Dr. Marion C. Pruitt, Atlanta, chairman of section on Proctology.

THE RANDOLPH COUNTY MEDICAL SOCIETY met at the Patterson Hospital, Cuthbert, on December 2nd. The program consisted of case reports and election of officers for 1938.

THE SIXTH DISTRICT MEDICAL SOCIETY met at Doctors Building, Macon, December 15th. The scientific program consisted of titles for papers as follows: *Problems in Human Sterility*, Dr. O. R. Thompson, Macon; *The Proper Ethical Conduct for a Successful Physician*, Dr. W. M. Cason, Sandersville; *A Discussion of State Medicine*, Dr. Chas. H. Richardson, Macon; *Indigestion*, Dr. H. C. Atkinson, Macon; *Report of Three Cases of Adenocarcinoma*, Dr. Chas. C. Harrold, Macon; *Tuberculosis in Georgia and What the State Department of Public Health Is Doing About it*, Dr. H. C. Schenck, Atlanta; address, *Medical Societies*, Dr. Geo. A. Traylor, Augusta, president of the Medical Association of Georgia. Dr. Ralph S. Muckenfuss, with the New York City Department of Health, spoke on *Recent Advances in the Treatment of Pneumonia with Serum*.

DR. AND MRS. W. T. SMITH, Tifton, entertained the members of the Tift County Medical Society at a turkey dinner on December 2nd. Other guests included Dr. J. A. Redfearn, Albany, councilor of the Second District, and Dr. H. J. Bickerstaff, with the State Department of Public Health. Officers were elected for the ensuing year.

THE GEORGIA MEDICAL SOCIETY, Savannah, held its One Hundred Thirty-fourth Annual Meeting on December 14th. The Program consisted of annual reports of officers and chairmen of committees. Officers were elected for 1938.

THE SOUTHWEST GEORGIA PUBLIC HEALTH ASSOCIATION held its quarterly meeting at Bainbridge on December 9th. Dr. M. E. Groover, Quitman, is president; Dr. Gordon T. Crozier, Valdosta, chairman of Membership Committee. Dr. R. F. Payne, Tifton, read a paper entitled, *Epidemiology of Typhus Fever*. New

members elected for the ensuing year were: Dr. Gordon T. Crozier, Valdosta, president; Dr. M. A. Fort, Bainbridge, vice-president.

THE STAFF MEETING of Grady Hospital, Atlanta, met on December 14th. The program consisted of reports of cases with titles as follows: *Enlarged Glands* by Dr. Jeff L. Richardson and Dr. McElheny; *An Unusual Complication of Biliary Tract Fistula*, Dr. A. S. Ingram and Dr. John Peschau; *Perforated Ulcer with Pulmonary Embolism and Death*, Dr. J. Gaston Gay and Dr. R. E. Stegall.

DR. J. A. CORRY, Barnesville, has been appointed a member of the State Board of Health from the Fourth District for a six year term which expires on September 1, 1943.

DR. EUGENE E. MURPHEY, Augusta, spoke before a meeting of the Atlanta Bird Club at the Colonial Terrace, Peachtree Street, Atlanta, on *Reminiscences of a Georgia Ornithologist*, December 11th.

DR. T. J. COLLIER was elected president of the staff of Piedmont Hospital, Atlanta; Dr. Wm. R. Minnich, vice-president; Dr. Wm. E. Mitchell, re-elected secretary.

DR. ALVIN E. SIEGEL announces the removal of his office to 553 Walnut Street, Macon; practice limited to internal medicine and diagnosis.

THE THOMAS COUNTY MEDICAL SOCIETY met at the Archbold Memorial Hospital, Thomasville, December 15th. The Nominating Committee announced the selection of officers for the ensuing year which were elected. Dr. Henry E. Palmer, Tallahassee, Florida, read a paper entitled, *Can We Hope to Control and Possibly Eradicate Syphilis and Gonorrhea?*; Dr. Arthur D. Little, Thomasville, *Some Surgical Aspects of Cancer*; balance of the time allotted for the program was consumed in a general discussion of *Sulfanilamide*. The next meeting of the Society will be held on March 16th.

THE STAFF MEETING of the Georgia Baptist Hospital, Atlanta, was held on December 21st. Reports of cases on the program were as follows: *Intestinal Obstruction* by Dr. B. T. Beasley; *Jejunal Ulcer*, Dr. Olin S. Cofer.

DR. CHARLES E. HALL announces the removal of his office to Suite 301 Doctors' Building, 478 Peachtree Street, N. E., Atlanta. Practice limited to diseases of the colon and rectum.

THE NATIONAL SOCIETY FOR THE PREVENTION OF BLINDNESS, 50 West 50th Street, New York City, offers its book on *Eye Hazards in Industrial Occupations* at the reduced price of 50 cents per copy. Until now it has been offered at the actual cost price of \$1.50 per copy. The book was published to help in a campaign against industrial eye accidents.

THE GEORGIA MEDICAL SOCIETY, Savannah, met on December 28th. Dr. Herman A. Shelansky, University of Pennsylvania School of Medicine, Philadelphia, read a paper entitled, *Trichomonas Vaginalis Vaginitis*; discussed by Dr. H. F. Sharpley, Jr., and Dr. E. C. Demmond. Dr. Maxwell Harbin, Cleveland, Ohio, paper entitled, *Low Back Pain—Its Cause and Treat-*

ment; discussed by Dr. J. K. Quattlebaum and Dr. C. F. Holton.

DR. OSCAR SWINEFORD, JR., University of Virginia Department of Medicine, University, Virginia, requests all members of this Association who are interested in *Allergy* to write him.

DR. CHAMPNEYS H. HOLMES, Atlanta, has been elected to fellowship in the American College of Surgeons.

THE SPALDING COUNTY MEDICAL SOCIETY met at the Strickland Memorial Hospital, Griffin, on December 21st. The scientific program consisted of reports of cases by Dr. Kenneth S. Hunt and Dr. H. J. Copeland, both of Griffin.

DR. DANIEL C. ELKIN, professor of surgery at Emory University School of Medicine, and associate editor of THE JOURNAL, has been invited to address the Cleveland Medical Society of Western Reserve University, Cleveland, Ohio, January 19th. His subject will be *Arteriovenous Aneurysm*.

BIBLIOTHECA DA FACULDADE DE MEDICINA, U.M.G., Bello Horizonte, Brasil, South America, writes as follows: "The Journal of the Medical Association of Georgia is of great interest to the library of the School of Medicine of Belo Horizonte, and we should be very much obliged if the name of our library state in your mailing list. Considering the great importance of this Journal to us, we are sure that our letter will have a ready and favorable reply."

COUNTIES REPORTING FOR 1938

Jenkins County Medical Society

The Jenkins County Medical Society reports the following officers for 1938:

President—Q. A. Mulkey, Millen.
Vice-President—G. J. Bridges, Millen.
Secretary-Treasurer—J. J. Folk, Millen.
Delegate—J. J. Folk, Millen.
Alternate Delegate—G. J. Bridges, Millen.

Carroll County Medical Society

The Carroll County Medical Society announces the following officers for 1938:

President—S. F. Scales, Carrollton.
Vice-President—E. G. Kirby, Bowdon.
Secretary-Treasurer—D. S. Reese, Carrollton.

Jackson-Barrow Counties Medical Society

The Jackson-Barrow Counties Medical Society announces the following officers for 1938:

President—O. C. Pittman, Commerce.
Vice-President—Alex Russell, Winder.
Secretary-Treasurer—C. B. Lord, Jefferson.

Decatur-Seminole Counties Medical Society

The Decatur-Seminole Counties Medical Society announces the following officers for 1938:

President—Carl B. Welch, Attapulgus.
Vice-President—H. B. Jenkins, Donalsonville.
Secretary-Treasurer—M. A. Ehrlich, Bainbridge.
Delegate—R. F. Wheat, Bainbridge.
Alternate Delegate—E. C. Smith, Donalsonville.

Tift County Medical Society

The Tift County Medical Society announces the following officers for 1938:

President—M. L. Webb, Tifton.
Vice-President—Agnew Andrews, Tifton.
Secretary-Treasurer—C. S. Pittman, Tifton.
Delegate—R. F. Payne, Tifton.
Alternate Delegate—F. B. Pickett, Ty Ty.
Censors—W. T. Smith, T. F. Little and W. F. Zimmerman.

Macon Medical Society of Bibb County

The Macon Medical Society of Bibb County announces the following officers for 1938:

President—W. R. Golson, Macon.
President-Elect—H. C. Atkinson, Macon.
Vice-President—Alvin E. Siegel, Macon.
Secretary-Treasurer—A. M. Phillips, Macon.
Librarian—W. E. Mobley, Macon.
Delegate—J. D. Applewhite, Macon.
Delegate—J. B. Kay, Byron.
Alternate Delegate—W. W. Chrisman, Macon.
Alternate Delegate—J. T. Ross, Macon.

Randolph County Medical Society

The Randolph County Medical Society announces the following officers for 1938:

President—T. Schley Gatewood, Cuthbert.
Vice-President—T. F. Harper, Coleman.
Secretary-Treasurer—W. G. Elliott, Cuthbert.
Delegate—Loren Gary, Jr., Shellman.
Alternate Delegate—W. G. Elliott, Cuthbert.

Georgia Medical Society (Chatham County)

The Georgia Medical Society announces the following officers for 1938:

President—E. C. Demmond, Savannah.
President-Elect—A. A. Morrison, Savannah.
Vice-President—J. H. Pinholster, Savannah.
Secretary-Treasurer—S. E. Wilson, Savannah.
Delegate—C. F. Holton, Savannah.
Delegate—H. H. McGee, Savannah.
Alternate Delegate—J. Reid Broderick, Savannah.
Alternate Delegate—Ruskin King, Savannah.

Muscogee County Medical Society

The Muscogee County Medical Society announces the following officers for 1938:

President—William C. Cook, Columbus.
Vice-President—W. Edward Storey, Columbus.
Secretary-Treasurer—J. L. Stapleton, Columbus.

Dougherty County Medical Society

The Dougherty County Medical Society announces the following officers for 1938:

President—Alex Freeman, Albany.
Vice-President—E. F. Sapp, Albany.
Secretary-Treasurer—I. M. Lucas, Albany.
Delegate—H. M. McKemie, Albany.
Alternate Delegate—J. P. Tye, Albany.

Wilkes County Medical Society

The Wilkes County Medical Society announces the following officers for 1938:

President—H. L. Cheves, Union Point.
Vice-President—H. T. Harriss, Washington.

Secretary-Treasurer—A. W. Simpson, Washington.
 Delegate—R. H. Smith, Lincolnton.
 Alternate Delegate—C. E. Wills, Washington.
 Censors—R. A. Simpson and O. S. Wood.

Floyd County Medical Society

The Floyd County Medical Society announces the following officers for 1938:

President—T. H. Moss, Rome.
 Vice-President—W. P. Harbin, Jr., Rome.
 Secretary-Treasurer—Ralph N. Johnson, Rome.
 Delegate—R. C. Maddox, Rome.
 Alternate Delegate—Lester Harbin, Rome.

Fulton County Medical Society

The Fulton County Medical Society announces the following officers for 1938:

President—C. C. Aven, Atlanta.
 President-Elect—Edgar H. Greene, Atlanta.
 Vice-President—B. Russell Burke, Atlanta.
 Secretary-Treasurer—M. T. Harrison, Atlanta.
 Delegate—Jno. F. Denton, Atlanta.
 Delegate—Avery M. Dimmock, Atlanta.
 Delegate—O. O. Fanning, Atlanta.
 Delegate—Geo. W. Fuller, Atlanta.
 Delegate—C. E. Rushin, Atlanta.
 Delegate—H. C. Sauls, Atlanta.
 Delegate—C. W. Strickler, Atlanta.

Spalding County Medical Society

The Spalding County Medical Society announces the following officers for 1938:

President—Douglas L. Head, Zebulon.
 Vice-President—T. G. Smaha, Griffin.
 Secretary-Treasurer—Geo. L. Walker, Griffin.
 Delegate—W. C. Miles, Griffin.

Cherokee-Pickens Counties Medical Society

The Cherokee-Pickens Counties Medical Society announces the following officers for 1938:

President—C. J. Roper, Jasper.
 Vice-President—G. G. Robinson, Tate.
 Secretary-Treasurer—Chas. E. Andrews, Jr., Canton.
 Delegate—C. J. Roper, Jasper.
 Alternate Delegate—G. G. Robinson, Tate.
 Censors—R. M. Moore, G. G. Robinson and T. J. Vansant.

OBITUARY

Dr. John Daniel Mahaney, Columbus; member; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1912; aged 49; died at the Columbus City Hospital on November 19, 1937, after several weeks illness. He was born and reared at Waterbury, Conn. He practiced medicine in Atlanta for a few years immediately after serving his internship, then moved to Columbus. At the time of his death he was vice-chairman of the State Athletic Commission; member of the Muscogee County Medical Society, the American Medical Association and church of the Holy Family. Dr. Mahaney was a successful and sympathetic practitioner and had endeared himself to hundreds of friends. Surviving him are his widow; five sisters, Mrs. Joseph Fleming, New York City; Misses Katherine and Agnes Mahaney and Mrs. Nellie Blansfield, Waterbury, Conn.; sister St. Margaret of the Angels,

New York City; two brothers, D. J. and Bill Mahaney, Waterbury, Conn. Father Dan McCarthy conducted the funeral services from the church of the Holy Family. Members of the Muscogee County Medical Society were honorary pallbearers. Interment was in Linwood cemetery.

Dr. Emmett L. Merrill, Turin; Vanderbilt University School of Medicine, Nashville, 1890; aged 69; died in a Newnan hospital after a short illness on December 1, 1937. He was born in Newnan. Dr. Merrill practiced medicine in Coweta county for 45 years, was active in fraternal and religious affairs and an active leader in the Presbyterian church. Hundreds of friends held Dr. Merrill in high esteem. Surviving him are his widow, two daughters, Miss Dora Merrill, Miami, Florida, and Mrs. Frank Wilson, Forest Hills, N. Y. Rev. J. E. Hannah conducted the funeral services from the Presbyterian Church in Newnan. Burial was in the family lot in the Newnan cemetery.

Dr. Forrest Lee Lewis, Camilla; member; Emory University School of Medicine, Emory University, 1892; aged 69; died in a private hospital in Atlanta on December 12, 1937 after an illness of several weeks. At the time of his death he was local surgeon for the Atlantic Coast Line Railway and physician for Mitchell County. Dr. Lewis practiced medicine in Mitchell and adjoining counties for more than forty years. He was a successful physician and surgeon and endeared himself to hundreds of friends. He was mayor of Camilla for several terms, then abandoned his activities in politics, and again while sick and a short time before his death was re-elected mayor of Camilla. Dr. Lewis was a member of the Mitchell County Medical Society, Camilla Lions Club, Masons and the Methodist church, in which he had served as steward for twenty-five years. Surviving him are his widow, two daughters, Miss Helen Lewis and Mrs. Robert Culpepper, Jr.; two sons, F. L. and Jim Lewis, all of Camilla. Funeral services were conducted from the Camilla Methodist church and interment in the Camilla cemetery.

Dr. Joseph Alexander Reeves, Whitesburg; Atlanta College of Physicians and Surgeons, Atlanta, 1903; aged 73; died at his home after a long illness on December 13, 1937. He practiced medicine in Whitesburg and surrounding territory for more than thirty years. He was a good citizen and had many friends. Dr. Reeves was a member of the Masonic Lodge and the Whitesburg Christian church. Surviving him are his widow, three sons, W. L. Reeves, Union City; C. M. Reeves, East Point; P. E. Reeves, Atlanta; one daughter, Mrs. D. E. Page, Fort McPherson. Rev. E. A. Miller conducted the funeral services from the Whitesburg Christian church. Burial was in the Jonesboro city cemetery.

Dr. Julius Edward Sommerfeld, Atlanta; member; Medical College of Ohio, Cincinnati, O., 1886; aged 72; died at his home, 360 Ponce de Leon Avenue, N. E., after a long illness on December 14, 1937. After he graduated in medicine, he took postgraduate work in Berlin and Vienna, then came to Atlanta

more than forty years ago and did general practice until ill health forced him to retire. Dr. Sommerfield was interested in civic and political affairs of his home city and State. He was liberal with his professional services and funds for the indigent. He served many years on the staffs of the Grady Hospital and Piedmont Hospital and was a member of the Board of Trustees of the Hebrew Orphans' Home and the Home for Old Women; was also a member of the Fulton County Medical Society and the Jewish Temple. Surviving him are his widow, one son, A. W. Sommerfield; a brother, Adolph Sommerfield, New York; two sisters, Misses Ida and Tillie Sommerfield, of Los Angeles, Cal. Dr. David Marx directed the funeral services from the residence and interment was in Crown Hill cemetery.

Dr. William H. Hodges, Watkinsville; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1890; aged 66; died suddenly at his home on December 10, 1937. He was a native of Oconee County and spent his life there and had demonstrated unusual skill in the practice of medicine in Oconee and adjoining counties for more than forty years. Dr. Hodges possessed a brilliant mind with a wonderful personality and was a constructive citizen. He was a member of the Christian Church. Surviving him are his widow, two daughters, Mrs. Roy Fowler and Mrs. W. R. Johnston; four sons, L. L., H. B., H. T., and W. H. Hodges, Jr. Funeral services were conducted by Rev. D. N. Joiner, pastor of the Christian church, assisted by Rev. B. M. Sams. Burial was in Watkinsville cemetery. The members of the Clarke County Medical Society were honorary pallbearers.

Dr. Henry Lee Howard, Springfield; Southern Medical College, Atlanta, 1881; aged 78; died in a Savannah hospital after a short illness on December 13, 1937. He practiced medicine at Macon for a while, then removed to Effingham County where he practiced for many years. His professional activities extended over a period of more than fifty years. He was a successful practitioner and endeared himself to hundreds of acquaintances. Dr. Howard was one of the State's best citizens and directed his mental and physical energies for the upbuilding of his community and the State. Surviving him are his widow, one daughter, Mrs. B. D. Lamar, Augusta; three sons, Dr. Lee Howard, E. W. Howard and L. M. Howard, all of Savannah. Funeral services were held at the residence of his son, Dr. Lee Howard, 625 East 44th Street, Savannah. Burial was in Bonaventure cemetery. The following members of the Georgia Medical Society were active pallbearers: Dr. Robert Drane, Dr. J. T. Burkhalter, Dr. J. W. Young, Dr. Shelton Sanford, Dr. Lawrence Lee and Dr. T. J. Charlton.

Dr. John T. Cass, Fitzgerald; New York University Medical College, New York City, 1887; aged 86; died at his home on December 9, 1937. He was born and reared at New Hartford, New York. He began the practice of medicine at Indiana, Pa. Was one time president of the Medical Society of the State of Pennsylvania. He was quiet and unassuming, made friends easily and held them. Dr. Cass was a member of the

Masonic Lodge and St. Matthews Episcopal church. Surviving him are his widow, one daughter, Mrs. Elmer Waits; two sons, A. E. Cass, Philadelphia, and E. B. Cass, Atlanta. Funeral services were directed by Rev. J. H. Barnwell from St. Matthews Episcopal church. Interment was in Evergreen cemetery.

Dr. Henry Rutledge Donaldson, Atlanta; member; Atlanta College of Physicians and Surgeons, Atlanta, 1899; aged 59; died at a private hospital on December 25, 1937. He served in the medical corps of the United States Navy during the World War. Dr. Donaldson was a native of Alabama, and came from Estaboga to serve an internship at Grady Hospital, then began practice in Atlanta where he made many warm personal friends and was a successful practitioner and surgeon for more than twenty-five years. He was a member of the Fulton County Medical Society, American Medical Association, fellow of the American College of Surgeons; member of the Masons, Shrine, and All Saints Episcopal Church. Rev. James Kennedy conducted the funeral services from Spring Hill chapel. Burial was in West View cemetery.

THE AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY, INC.

Southern Section Meeting

Monday, January 24, 1938

Georgian Terrace Hotel, Atlanta

Promptly at 9:00 A. M.

1. Welcome Address.

Carl C. Aven, M.D., President Fulton County Medical Society, Atlanta, Georgia (by invitation).

2. Introduction of the President.

3. The Treatment of Chronic Infections of the Ear.

Samuel J. Kopetzky, M.D., New York, N. Y.

4. Spinal Rhinorrhea with Autopsy Report.

John J. Shea, M.D., Memphis, Tennessee.

5. Thrombo-phlebitis of the Lateral Sinus.

Claude C. Cody, Jr., M.D., Houston, Texas.

6. A Clinical Note on the Treatment of Chronic Suppurative Otitis Media.

Robin Harris, M.D., Jackson, Mississippi.

7. Further Experiences with Acute Tracheobronchitis in Children.

Lyman G. Richards, M.D., Boston, Massachusetts.

12:30 P. M.

Chairman's Luncheon—Georgian Terrace Hotel.

Compliments of Dr. Murdock Eguen to all Members and Guests.

1:30 P. M.

8. Business Meeting.

9. Laryngectomy—One Stage.

Waitman F. Zinn, M.D., Baltimore, Maryland.

10. Surgical and Therapeutic Aspects of Bronchiectasis with Clinical Observations on Bronchial Lavage by the Stitt Method.

Verling K. Hart, M.D., Charlotte, North Carolina.

11. Bronchoscopic Studies.

Porter P. Vinson, M.D., Richmond, Virginia.

12. The Management of Intractable Pansinusitis (Motion Pictures).

William A. Wagner, M.D., New Orleans, Louisiana (by invitation).

Cocktail Hour—Georgian Terrace Hotel.
Compliments of the Atlanta Eye, Ear, Nose and Throat Society to all Members and Guests.

THE NEW YORK POLYCLINIC MEDICAL SCHOOL AND HOSPITAL

The New York Polyclinic Medical School and Hospital wishes to announce the following appointments to its staff: Dr. Thomas G. Tickle as Professor of Otolaryngology; Dr. David H. Jones as Clinical Professor of Bronchoscopy; Dr. Ernest E. Smith as Adjunct Professor of Roentgenology.

At the October meeting of the Clinical Society of the Polyclinic Hospital, the following program was presented:

"Adrenal Genital Syndrome and Adrenal Tumors" by George F. Cahill, M.D., Presbyterian Hospital. The discussion was opened by Frederick M. Smith, M.D. "The Field of Radiation Therapy" by Frank Huber, M.D. The discussion was opened by William H. Stewart, M.D., Lenox Hill Hospital.

At the November meeting of the Society, the following program was presented:

"The Present Status of Fever Therapy" by Richard Kovacs, M.D.; "New Developments in Thyroid Disease" by Frank H. Lahey, M.D., Lahey Clinic, Boston, Mass. The discussion was opened by Emil Goetsch, M.D., Long Island College Medical School and Hospital; Robert Emery Brennan, M.D., and John Carroll, M.D.

At the December meeting of the Polyclinic Medical Society, the following program was presented:

"Traumatism and Peptic Ulcer" by Edward L. Kellogg, M.D. The discussion was opened by Aaron S. Price, M.D. "Coronary Thrombosis" by G. E. Hall, M.S.A., M.D., Ph.D., Associate Professor, Department of Medical Research of Banting Institute, Toronto, Canada. The discussion was opened by W. T. Connell, M.D., Professor of Medicine, Queens University, Kingston, Ontario; Robert L. Levy, M.D., Professor of Clinical Medicine, Columbia University; Clarence E. de la Chapelle, M.D., Acting Director Medical Division of Bellevue Hospital and Medical School and Irving R. Roth, M.D., Clinical Professor of Medicine, New York Polyclinic Medical School and Hospital.

At the January meeting of the Polyclinic Medical Society, the following program was presented:

"Foreign Bodies in the Air and Food Passages with Particular Stress on Peri-esophagitis" by David H. Jones, M.D. "Bronchogenic Carcinoma" by Charles E. Wolcott, M.D. "Lung Abscess" by H. Griffen Bullwinkel, M.D. (Lantern Slide Demonstration). "Present Problems in Diabetes" by Elliott P. Joslin, M.D., Boston, Mass. The Discussion was opened by Herman O. Mosenthal, M.D., and Frederick M. Allen, M.D.

SAN FRANCISCO HOTELS

1938 AMERICAN MEDICAL ASSOCIATION ANNUAL SESSION

The Board of Trustees of the American Medical Association has appointed Doctor Howard Morrow of

San Francisco as General Chairman of the Local Committee on Arrangements. Among other appointments of local sub-committees, Doctor Morrow has appointed Doctor E. C. Warnshuis, Chairman of the local committee on Hotels.

Fellows are requested to send in their requests for hotel accommodations to Doctor E. C. Warnshuis, Suite 2004, 450 Sutter Street, San Francisco, California, giving names of members in party, type of accommodations desired, time of arrival and departure.

Assignment of accommodations and their confirmation will be made for each reservation request. Do not write directly to any hotel as *all* reservations will be cleared through the Hotel Committee.

Banquet Rooms and Special Dinners reservations must be made through the Hotel Committee. The same rule applies to special boards and allied organizational groups.

San Francisco affords first-class hotels capable of providing accommodations for 15,000 fellows and members of their families. However, early reservations are requested to avoid confusion and to insure individual choice. A pleasing surprise awaits every Fellow in the hotel accommodations of the Golden Gate City.

Those planning to visit San Diego, Los Angeles, Santa Barbara, Del Monte, Yosemite, or other California cities are urged to write in advance for hotel reservations in these cities. Following the American Medical Association Annual Session, the Rotary, Kiwanis, and Shriners hold their annual sessions in California. It is quite probable that many of the members of these organizations will visit points of interest before their conventions, thereby creating heavy demands on local hotels throughout the State.

WHAT EVERY WOMAN DOESN'T KNOW— HOW TO GIVE COD LIVER OIL

Some authorities recommend that cod liver oil be given in the morning and at bedtime when the stomach is empty, while others prefer to give it after meals in order not to retard gastric secretion. If the mother will place the very young baby on her lap and hold the child's mouth open by gently pressing the cheeks together between her thumb and fingers while she administers the oil, all of it will be taken. The infant soon becomes accustomed to taking the oil without having its mouth held open. It is most important that the mother administer the oil in a matter-of-fact manner, without apology or expression of sympathy.

If given cold, cod liver oil has little taste, for the cold tends to paralyze momentarily the gustatory nerves. As any "taste" is largely a metallic one from the silver or silverplated spoon (particularly if the plating is worn), a glass spoon has an advantage.

On account of its higher potency in Vitamins A and D, Mead's Cod Liver Oil Fortified with Percormorph Liver Oil may be given in one-third the ordinary cod liver oil dosage, and is particularly desirable in cases of fat intolerance.

"BENZEDRINE SULFATE" IN NARCOLEPSY

Ulrich (N. E. J. Med., 217:696, Oct. 28, 1937) makes a second report on the treatment of narcolepsy with "Benzedrine Sulfate" (benzyl methyl carbina-

mine sulfate, S.K.F.). Some of his patients have now had continuous treatment for nearly two years.

Seven of the ten cases of narcolepsy were complicated by cataplexy. All had complete or marked relief on administration of "Benzedrine Sulfate" in doses varying from 10 to 60 mg. a day, the average daily dose being 25 mg. In only one case was there an apparent tolerance developed. Cataplectic symptoms were particularly benefited, and did not re-appear even after withdrawal of therapy.

No evidence of permanent deleterious effects or habit formation was found. Slight rise in blood pressure and basal metabolic rate was produced in some instances, but these effects were transitory. Anorexia and momentary discomfort were prevented by reducing the dose or changing the time of administration.

Two patients who suffered from obesity had an 11 per cent loss of weight with "Benzedrine Sulfate" in doses of 20 to 30 mg. a day. This effect was not observed in patients of normal weight.

Ephedrine was tried in three cases of narcolepsy, but was found to be of slight or no benefit. Dibenzyl carbinamine, given to four patients, failed to relieve narcoleptic symptoms and produced gastro-intestinal reactions, especially in large doses.

The author concludes that "Benzedrine Sulfate" provides the only satisfactory treatment for narcolepsy, but cautions against unsupervised use.

VITAMIN PRODUCTS COMPANY

Mr. George H. Cox has recently assumed full charge of the distributing office of the Vitamin Products Co., of Milwaukee, Wis., in Atlanta and Georgia, located in the First National Bank Building.

Mr. Cox assures us that he will closely cooperate with the members of the Medical Association of Georgia in rigidly following the policies of his company in merchandising CATALYN and related products. No "consumer advertising" is allowed by the company and instead prescriptions from physicians through ethical pharmacists are stressed.

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CLINICAL AND EXPERIMENTAL STUDIES OF BURNS

J. D. MARTIN, JR., M.D.
Atlanta

Since Davidson first standardized the tannic acid treatment of burns many evaluations of this method have been made. Observers first thought that tannic acid would precipitate the broken down tissue material and prevent its absorption; however, it has since been shown that systemic changes will be manifested, but to a lesser degree, in spite of this and other methods of treatment.

The statistics show a marked reduction in mortality rates since the adoption of this method of treatment. Bancroft and Rogers¹ report a mortality of 20 per cent with tannic acid treatment, whereas it was 40 per cent by other methods. Others using the treatment with success were: Beckman² showed a drop in mortality from 37.8 to 14.9 per cent, Glover³ from 14 to 9.6 per cent, Seegar⁴ from 12 to 9 per cent, Harris from 26.6 to 12 per cent at Children's Hospital in Toronto; and Herzfeld,⁵ at Royal Edinburgh Hospital for Children, from 38 to 9 per cent. These results are probably attributable to improvement in the general treatment of the patients as well as the local care of the burned areas.

Several facts have been established concerning burns which proved beneficial in their treatment. It is generally agreed that there are three stages of reaction following a burn:⁶ The first period, and by far the most important, is that of *shock*. The second is called the *toxic* stage, although the existence of toxins have never been proved.⁷ The third is the *septic* stage, which is so rarely manifested when the patient is treated by the tannic acid

method. Glover³ states that the first and second stages are the most important, and death rarely occurs later.

This classification aids in properly describing and evaluating the various pathologic manifestations of burned patients. In the first group the changes are essentially those of secondary traumatic shock, namely, a hemoconcentration associated with decreased blood volume and decreased cardiac output. The extent of these effects are directly proportional to the amount of fluid loss which takes place into the tissues and from the burned surface. When the individual is incapable of maintaining a water balance mechanism the chlorides pass into the tissues, leaving the total blood serum chlorides decreased. As a result of these changes the cells of the various tissues are early affected. Deprivation of oxygen to the tissues results in varying degrees of necrosis. In fatal cases almost complete cellular destruction may be seen. Function of the vital organs, such as the heart, kidneys and liver, is impaired in amount corresponding to these early changes.

During the past six years there have been 1,310 burns in the Emory University Division of the Grady Hospital, all of which were uniformly treated by the use of tannic acid. The treatment was carried out by one member of the house staff and myself, with the cooperation of other house staff members. Accurate laboratory findings were recorded in each instance during the period of hospitalization. Sufficient opportunity, therefore, was enabled to evaluate this method of treatment.

The routine treatment is to administer sufficient opiates for the relief of pain. The patient is immediately placed in bed without consideration of the burn. Treatment of shock is instituted, which consists in giving saline, acacia, and blood transfusions as soon as suitable donors are available. After reacting from the shock the burned area is

*Read before the Medical Association of Georgia, Macon, May 12, 1937.

†From the Department of Surgery, Emory University School of Medicine, Atlanta.



Fig. 1 (a). Case 1 showing the extensive area involved with the tannic acid applied.

treated. The proper preparation of the area is most essential for successful results. All loose skin and clothing are gently removed and the surface cleansed with normal saline and some mild non-irritating antiseptic. The patient is placed on sterile sheets underneath a light cradle. The tannic acid is now applied by means of a large spray, using five per cent solution in 1:10,000 merthiolate.⁸ The time required for the formation of a coagulum depends on the diligence of the attendants. This period may be lessened by the use of 10 per cent silver nitrate in conjunction with tannic acid.⁹ The coagulum is not disturbed in the very superficial cases until healing has occurred, which usually requires about two weeks. In the deeper burns, especially when

infection is noted, the covering is removed and treatment of the open wound is begun. All suitable cases are grafted when the infection disappears.

It is essential to treat severe burns in the hospital but only 271 of this group were so treated, due to lack of facilities. Greater care must be exercised in those cases treated in the home and out-patient department or the primary purpose; that is, to lessen the infection, will be defeated.

The mortality for the entire series was 5.87 per cent. The mortality for the hospital group was 28.04 per cent, which is unusually high, but it must be realized that many extensive burns were treated in the out-patient department. The greatest opportunity for reduction of mortality occurs in the border-line cases which are not considered serious on first examination. All burns must be considered serious when one-third of the body surface is involved, regardless of the depth.

A reduction in mortality has been attributed to the use of tannic acid. This has been accomplished by decreasing the fluid loss, lessening the shock, and diminishing the infection. If the skin and subcutaneous tissues are destroyed, regeneration is impossible without the formation of considerable scar, regardless of the method of treatment. An earlier writer has defined a burn as an "infected wound caused by heat." With the proper use of tannic acid this description is incorrect in superficial burns.

The incidence of skin-grafts is an index as to the depth of the burn and the degree of infection that was present. Many superficial burns became infected and required grafting that could have been prevented. One hundred and twenty-five cases in this series were grafted. This number would have been more with other methods of treatment, since infection is decreased with tannic acid. Deep burns should always be grafted rather than be allowed to heal with extensive scar formation. The average period of hospitalization was 37 days, which is a definite reduction, and can be attributed to tannic acid and early skin-grafting of deep burns.

The increasing incidence has been attributed to many causes, notably those arising from industrial hazards, changes in social and economic conditions, increased popula-

| NAME | BLOOD COUNT | BLOOD CHEMISTRY | URINE | CO ₂ | TYPE | DAYS IN HOSPITAL |
|---------------|--------------------------------------------------------------------------------------|----------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------|--------------------------------------------------------|------------------|
| Bessie Hardin | R—4,720,000 W—15,550 Hb.—6.38 gm. Polys—72% S. Lymph—18% L. Lymph—10% | N.P.N.—58.2 Creat.—1.19 Cl.—29.7 | Sp.Gr.—1.015 Alkaline Albumin 4+ Blood 1+ Occ. gran. cast Occ. pus cell | 57.1 17 | 2nd & 3rd degree 54% B.S. Open Flame | 7 days |
| Age 35 | R—6,250,000 W—16,100 Hb.—6.38 gm. Polys—76% S. Lymph—20% L. Lymph—4% | N.P.N.—60 Creat.—2.3 Cl.—478.5 | Sp.Gr.—1.017 Acid Albumin 3+ Sugar—trace Occ. pus cell Occ. gran. cast 30-40 red cells | 16.7 19.3 18 | | |
| | R—5,790,000 W—6,700 Hb.—9.65 gm. Polys—86% Lymph—14% | N.P.N.—75 Creat.—3 Cl.—561.6 | | | | |

Fig. 1 (b). Chart of laboratory data of Case 1.

tion, and motorization. Since the working classes are most exposed to industrial hazards, there is a greater prevalence in this group than ever before. At the Henry Ford Hospital¹⁰ 45 per cent of the lethal burns occurred in children under six years of age. Our mortality in the same age group was only 33 per cent. Sixteen and six-tenths per cent of the mortalities occurred in patients past 60. Thus, there is about an equal number of deaths in the so-called extremes of life and the middle group.

The mode of production of the various burns directly depends upon the occurrence in the different age groups. In general hospitals, where all types are treated, by far the greatest number are due to burns from the open flame. Fifty-nine per cent were incurred by this method. Scalds, which are thought to be more fatal than burns from the open flame, were next in number with 20.4 per cent of the total. However, the mortality for the hospitalized scalds was 22 per cent as compared with 34.7 per cent from the open flame.

A critical review of 77 mortalities reveal many interesting figures. There were 13 deaths within 12 hours after the accident. The majority of the fatalities took place between the twelfth hour and the fifth day, when 48 deaths occurred. Sixteen deaths in the series occurred after the fifth day. The longest period of survival was 55 days. Fatal complications, such as pneumonia, nephritis and sepsis were decreased after the fifth day. These results prove the common belief that if

an individual survives the first few days of a burn the outcome is favorable.

An estimation of the depth and body surface involved is attempted in each instance in an effort to render a prognosis. Various methods have been used to determine the seriousness of a burn. It is usually considered that one-third of the body surface involvement in an adult and one-seventh in a child, regardless of the depth, is likely to prove fatal.¹¹ By Berchow's method¹² the average percentage of involvement in this series was 40. The smallest was 6 per cent in a 21 year old man who died on the fourth day from a lobar pneumonia. The greatest surface involvement was 90 per cent in a 40 year old man who died in eight hours.

Thirty-five of the series had more than 40 per cent surface involvement. The percentage mortality for this group was 87.8. This extremely high rate is contrary to many reports. It is, therefore, believed that by careful attention to this group the mortality can be reduced. One patient recovered after having 60 per cent skin surface destroyed. This was a child of eight years with second and third degree burns. It is noteworthy that the only systemic manifestation was a mild hemoglobin concentration occurring in the first 48 hours.

The greatest care must be exercised in treating patients with less than 20 per cent body surface involvement. If they are considered insignificant the outcome is out of proportion to the severity and extent of the apparent damage. Treatment in this group usually consists in the immediate application of a



Fig. 2 (a). Case 2 after having been tanned.

dressing without recognition of the general changes which will appear in either of the three stages. By the use of tannic acid and adequate general care a fatal issue can frequently be avoided.

When a mortality occurs with less than 15 per cent body surface involvement the burn has been neglected. Thirteen deaths occurred in this group, many of which had associated conditions, notably cerebral hemorrhage, senility, epilepsy, malnutrition, and one had fractures of both femurs. The burns were coincidental and were only contributory causes. One case in this group should be reported in detail since it explains some of the difficulties in treating these patients.

Report of Case

A man of 25 was burned over only 10 per cent of

| | | |
|-------------------------------|-----------------|----------------------------|
| D. M. H. | R. B. C. | 7,660,000 |
| Age 18 | W. B. C. | 21,300 |
| | Hb. | 20.44 gm. |
| Second and third degree burns | N. P. N. | 35 |
| | Cr. | 1.2 |
| | Sugar | 465.1 |
| 80% B. S. B. | Cl. | 478.5 |
| | Co ₂ | 34% |
| Death 11 hours | Urine | Albumin 4+ |
| | | Hyaline and granular casts |
| | Blood | Numerous red blood cells |

Fig. 2 (b). Chart of laboratory data of Case 2.

body surface. There was an initial concentration of blood and response to treatment was satisfactory. Following the rise, the erythrocytes and hemoglobin dropped to a marked degree. Anemia became progressive and death occurred on the twenty-third day. Unfortunately suitable donors could not be obtained, which may have prevented this fatality. The use of blood transfusions in the stage of shock, and also in the late period of sepsis, has decreased both the morbidity and the mortality.

Discussion

A review of such a series of burns offers much information regarding the problem of treatment. It was believed by some of the earlier enthusiastic supporters of the tannic acid method that most of the problems would be solved by its use. The recent interest in the development of this and other types of protective treatment of burns has been of much value. The greatest benefits are derived when there is accompanied adequate general care. If either of these are neglected the results will be uniformly poor.

Taylor¹³ suggests that tannic acid be used only on severe burns since there is a delay in epithelial regeneration. This is contrary to my experience as no delay in healing was noted in either the superficial or deep burns. Too early removal of the coagulum will interfere with epithelization, and probably explains some unsatisfactory results. In the superficial burns the experience in our series has been that the growth of epithelium is stimulated by the use of tannic acid.

Underhill,¹⁴ Blalock,¹⁵ and others have shown that in extensive superficial burns there was an increase in hemoglobin and red blood cells with a lowered arterial pressure similar to that seen in peptone and histamine shock. The blood plasma passes rapidly through the capillary wall into the tissues leaving the concentrated erythrocytes. The extent of concentration is thought to be 140 per cent before partial asphyxiation of the

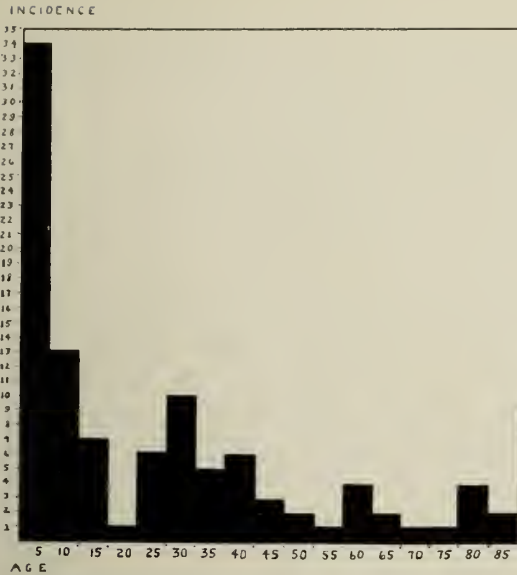


Fig. 3. Graph showing relation of age to incidence.



Fig. 4. Graph showing relation of age to mortality.

tissues occurs as result of inefficient oxygen carriage. This may account for the immediate systemic pathologic findings as well as the changes occurring late in the disease.

The recognition of these facts and the immediate administration of intravenous fluids decreases the early mortalities. Davidson^{16,17} and Underhill¹⁴ have shown that one-third of the blood chlorides could be lost without evidence of depletion. It has been found that hypertonic saline and blood transfusion offer the greatest benefit since a more adequate blood volume can be maintained. Hypertonic saline replaces the decreased blood chlorides which have occurred inversely to the rise of the hemoglobin and red blood cells.

In spite of education and improvement in living conditions among certain classes of people, there continues to be an increase in the number of burns. The majority in children occur in the poorer classes and this probably will continue to constitute a large number. There is noted in this survey that an increase is occurring in the working man. Only one-third of the mortalities occurred in children under six years of age, which is very satisfactory considering the increased incidence at this period.

The occurrence of the majority of the deaths between the twelfth hour and the sixth day is probably due to the development of the secondary manifestations of shock. It is extremely important to prevent or lessen these effects in the immediate treatment. The

use of tannic acid is an aid in reducing the number of deaths after six days. This is brought about by lessening the amount of infection and the prevention of delayed sepsis and its complications.

The common belief that burns with one-third body surface involved are serious is verified in this summary. The average body surface involvement was 40 per cent. Adequate treatment during the first 24 hours of burns with less than one-third surface involvement should be accompanied by the greatest protection from tannic acid during this crucial period by lessening complications. In extensive superficial burns, it is doubtful if the mortality can be appreciably reduced regardless of the method of treatment. However, the use of this type of treatment is warranted by the comfort derived by the patient.

The numerous general manifestations in burns cause much difficulty in treatment. A careful study of each case should be made to determine the extent of these effects in order to institute the amount and type of systemic treatment. Without detracting from the benefit of tannic acid and other agents of this type, diligent general care remains the most important therapy of burns.

Experimental Results

Since the clinical features in secondary shock and extensive burns are similar during the first few hours of a burn, it was endeavored to study the effect on the blood and

| TIME OF DEATH | | |
|---------------------------|--------|---------------------------------|
| Time | Number | Percentage of Total Mortalities |
| Within 12 hours | 13 | 16.8 |
| From 12 to 24 hours | 23 | 29.8 |
| From 24th hour to 5th day | 25 | 32.4 |
| From 5th day | 16 | 20.7 |

Fig. 5. Showing the time death occurred.

tissues of animals following different types of burns.

A group of experimental animals were anesthetized with 10 mg. of morphine for each kilogram of body weight, followed by 10 cc. of Grehant's solution for each kilogram. The femoral artery and vein were exposed in two legs so that blood could be obtained directly. A preliminary study of the blood was made in the vein and artery. In one group one leg of each animal was burned with hot water; in another group a leg of each animal was burned heavily with an open flame.

The concentration of the blood occurring in the burned leg was estimated by hemoglobin, red blood cell, and white blood cell determinations. Blood chlorides, urea, non-protein nitrogen, creatinin and sugars, as well as carbon-dioxide combining powers of arterial and venous bloods were taken in both legs. The venous pressure determinations were made in each leg. Estimations of the blood were made immediately before burning, after the animal was anesthetized, and at regular intervals afterwards. From the unburned leg blood was obtained at each period for control. In most instances the animals died, occasionally they were sacrificed. The longest duration of life following the burn was ten hours and the shortest forty minutes.

The results were not uniform in denoting the amount of concentration between the arterial and venous blood, but in most every instance there was a rise of venous blood counts to a marked degree. This may be explained as in Blalock's experiments on shock, that the fluid loss occurs high up along the flanks, above the site from which the blood was obtained. It seemed that those animals which were scalded showed more concentration and were least able to withstand this trauma than those burned with the open flame. The limbs of the latter animals did not become as edematous as those that were only superficially burned; that is, when there was

destruction of all the skin and underlying structure the legs were not as edematous and there was a corresponding failure of concentration of the blood.

When the animal was superficially burned and the optimum concentration effect obtained it seemed to last for only a short duration. After the plasma was poured into the local tissue space as a result of a widening of the capillary bed in the involved leg only, there was in a short time an attempt at the establishment of an equilibrium by means of mixture of the blood of the entire body. The local areas became so filled with plasma that there was thus established a level which was maintained throughout the remainder of the life; in other words, the hemoglobin and blood counts of the control and burned limbs became the same.

The study of venous pressure was of interest in that it continues to prove the location of fluid loss to be at the site of the burn. The venous pressure rose on the side that was burned, whereas there was no change on the unaffected limb. The increase in venous pressure in some instances was as much again as in the unaffected limb. The pressure returned to the original figure as the concentration of blood diminished.

In those animals where the burns caused an early death, the outstanding changes were *hemorrhage* into the gastrointestinal tract, particularly the stomach, and multiple petechial hemorrhages over the body. In the various organs the capillaries were widely dilated and filled with red blood cells. The tissue spaces contained red blood cells in an orderly manner. It is probably through this loss of the red cells into the entire tissue spaces that an equilibrium is established between the injured part and the remainder of the body.

The adrenals in the lightly burned animals showed edema and hyperemia in both the cortex and medullary portions; in the severe burns there were hemorrhages into the tissue spaces of the cortex. In the late stages there was a destruction of the cortical cells with a chromatolysis. These changes may in part, or as a whole, explain the increased arterial pressure, which was followed by a lowering of pressure, as the destruction of the adrenals took place. There was insufficient constrict-

tion to incite increased arterial pressure only to be followed by a vaso-dilatation or an inactivity as necrosis of cortical cells took place. The early hyperglycemia and the late hypoglycemia may also be ascribed to these changes in the adrenals. The destruction of the liver cells also explains the late decrease in blood sugar.

Summary of Experimental Findings

1. There is a close relationship between the blood findings in secondary shock and a superficial burn.

2. In experimental animals there is not as much fluid loss at the site of deep burns with the open flame as in scalds.

3. The increase in red cell counts and hemoglobin readings reach a maximum at the third to fourth hour only to be followed by a diminution which may return lower than the original determination. The probable explanation of this being, in part, attributed to the passage of the red blood cells into the capillaries over the entire body.

4. No changes were noted in the unburned leg which was used as a control. As yet inadequate experimentation has been done but the probable site of concentration is in the loose tissues of the injured limb.

5. Following the burning of the leg of the dog venous pressure was noted to rise in this leg, whereas in the unburned leg there was no change. The height of rise was directly proportional to the edema that had taken place, and the concentration of the red blood cells. The venous pressure decreased as the concentration decreased.

6. Following early death from burns the gross and microscopic changes closely resemble the findings in secondary shock.

7. The kidneys show changes which occur early, involving first the glomeruli and then the tubules. These lesions may be responsible for the retention of the nitrogenous products which usually are present when one survives the first few hours following a burn.

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DISCUSSION ON PAPER OF DR. J. D. MARTIN, JR.

Dr. J. C. Patterson (Cuthbert): None of us like to treat burns, but the majority have to treat them, so a paper of this type has been interesting to all.

Dr. Martin has brought us a resume of the literature on this subject. He has also studied and analyzed a series of cases in his own practice, of sufficient number to be of some real value. He is to be congratulated on his general mortality of only 5.87, which is one of the lowest on record. I agree with him, and I think it cannot be emphasized enough, that the treatment of the patient as a whole rather than the burn alone is the reason for his low mortality.

Up until 1925, the treatment of burns was more or less chaotic. Everything from hog lard to any other kind of grease was used. In 1925, Davidson published his paper on the use of tannic acid, and it has increased the efficiency of the treatment of burns a great deal. In 1934, Bettman added silver nitrate solution to the tannic acid treatment. Dr. Martin mentioned tannic acid, but week before last, in the *American Medical Journal*, Bettman published an article so enthusiastic about the use of silver nitrate solution in addition, that I should like to read you a summary of his paper:

"A new conception of burns has been brought about as a result of their treatment by the tannic acid-silver nitrate method. This treatment appears to change the lesion into one comparable to a surgical wound. It is this induced change, by the application of tannic acid and silver nitrate, that makes it superior to any other procedure from many different points of view.

"The shift of the circulating body fluids into the tissues adjacent is halted at once. The necessity for prompt and complete stoppage of all fluid losses is imperative. A treatment that requires more than an hour in which to seal up the leaking surfaces and to control the fluid shift is therefore to a high degree inefficient. Tannic acid and silver nitrate applications which act instantly are therefore most efficient. The practical importance of speed in the initial treatment of burns is manifest when it is recalled that sixty per cent of the deaths from burns occur in the first twenty-four hours, nearly all from traumatic shock."

The advantages as listed are:

"1. The saving of lives that would be lost through the slower method of tanning.

"2. The immediate stopping of the loss of body fluids, thereby preventing the consequent concentration of the blood.

"3. The immediate prevention or very definite minimizing of shock.

"4. The immediate prevention of the absorption of toxic products.

"5. The prevention of infection by the short period of application of moisture and the early drying of the tanned tissues.

"6. The saving of the kidneys and other organs from the effects of fluid concentration and the absorption of toxins and infection.

"7. The greater comfort of the patient.

"8. The fact that the patient is carried safely past the first twenty-four hours, the most critical period following a serious burn.

"9. The fact that the patient avoids the second critical period, that of infection and late absorption of toxic products.

"10. The simplification of the nursing problem, especially in the first twenty-four hours.

"11. The prevention of further breaking down of tissues, resulting from long application of wet dressings.

"12. The prevention of chilling, resulting from the long application of cold, wet dressings.

"13. The formation of a thin, flexible coagulum.

"14. The speedy healing of the burned areas with a shortened period of hospitalization.

"15. The prevention or minimizing of heavy contracting scars by early rapid healing in the absence of infection.

"16. The lessening of the amount of skin grafting and secondary corrective surgery."

I should like Dr. Martin to give an estimate on the importance of the addition of the silver nitrate to the tannic acid method, whether he thinks it is of such great importance as he seems to suggest.

I have enjoyed Dr. Martin's well-thought-out and well-worked-out paper.

Dr. R. C. Franklin (Swainsboro): Dr. Martin has given us an excellent presentation on the tannic acid treatment of burns. He has shown, with others, that the three stages of burns, secondary shock, the toxic stage, and the septic stage, must be recognized in the successful treatment of burns. When the first and second stages are successfully handled, the third, or septic, stage is materially lessened, and so is skin grafting, or deformities that may follow any severe burns.

His experience in the tannic acid treatment of burns has been drawn from a very large number of cases which he has grouped and analyzed well. He has shown that when the general therapy is thoughtfully individualized and this treatment diligently carried out, these patients are much more comfortable, and the mortality is reduced to approximately one-third.

Davidson summarized the advantages of the tannic acid regimen as follows: It (1) lessens toxemia, (2) is analgesic, (3) minimizes trauma, (4) conserves body fluid, (5) limits secondary infection and consequent scar formation, and (6) forms a scaffold for the growth of young epithelial cells. These statements remain true after a period of about twelve years.

Since Davidson's time, many new facts about the pathological physiology of trauma and burns have been brought to life, and consequently some refinements and

improvements in the treatment have been made. Without a doubt, silver nitrate added to the tannic acid treatment has greatly simplified this treatment, especially for those of us who operate small hospitals and time means so much to us. To my mind, it is the most speedy and most efficient treatment for burns that we can use. A protective coagulum is formed within a few minutes, where it takes hours and diligent attention, too, for the formation of a good protective coagulum with tannic acid alone. This is extremely important, as brought out by Bettman in a recent article in the *Journal of the American Medical Association*.

Traumatic shock, as shown by many investigators, is the result of the diminution and shifting of circulating body fluids. In burns we have a loss of body fluids, together with the shifting of fluids where the skin is broken. The rapidity of the formation of the tannic acid-silver nitrate coagulum gives it the advantage over tannic acid alone or the dyes, which are used, such as methylene blue and mercurchrome, and so forth.

As Dr. Patterson has said, something like sixty per cent of those that die from burns die within the first twenty-four hours. It follows, then, that the efficiency of this treatment, faced by no contrariwise effects from the silver nitrate, has many advantages over the tannic acid treatment alone. Bettman states that it has reduced hospitalization in his hospital to one-fourth of the time.

Then there is the simplicity of the application of this treatment. After you have taken care of your patient in the general way, you apply the tannic acid with a mop, which is very simple, and then immediately follow with the silver nitrate—5 per cent tannic acid followed by 10 per cent silver nitrate. This makes the treatment very simple, and so far as we have been able to ascertain it is equally as advantageous. Of course, it is well known what the following treatment is, that is, after you have taken care of your patient's shock and applied the treatment, there is the placing of the patient in a bed under a lighted tent, so as to dry the patient thoroughly and keep him uniformly warm.

Dr. J. D. Martin, Jr. (Atlanta): The method of using silver nitrate solution in conjunction with tannic acid is something we have used since Bettman first came out with this additional support in regard to treatment. I think in only one feature it has been of benefit when used in addition to our treatment. It lessens the period that is required for the application of tannic acid. The application of the silver nitrate, however, is extremely painful, and I certainly want all of you to remember that in applying silver nitrate to a child a year and a half to two years old, severely burned, you are going to have quite a hard job. I think that the pain the child experiences is certainly justified, as it will be over in a short time. I think, however, that the results that Dr. Bettman has offered are a little too enthusiastic, but I hope with future experience we may be able to believe as he does also.

I think there is one point to remember in the treatment of burns, whether we are treating with tannic acid or anything else, is that the most important thing to do is to treat the patient and not the local condition. first.

TUMORS OF THE BRAIN*

A Six Year Statistical Study

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This study is based on a review of 219 tumors of the brain which were verified by histologic examination. All but 10 of these patients were operated upon and the diagnoses were made from microscopic studies of the tissue removed at the time of operation, or from necropsy specimens. In a few instances many months elapsed between the operation and necropsy, and one or two patients lived active lives for years before the final studies were possible. Necropsy examinations of the patients who survived for variable periods of time after leaving the hospital were made possible through the cooperation of attending physicians. The 10 patients not operated upon are included in this study, for in every instance an operative time had been scheduled, and in most instances death occurred within an hour or two of this posted time. This group of 10 cases stands as a warning to all of us and illustrates the necessity of realizing that a great number of brain tumors are potential surgical emergencies. Of the 209 patients operated upon, only a few of the most important facts will be reported in this communication, hoping to emphasize again the clinical value of the histologic classification of tumors, stressing the more common clinical features and attempting to dispel some of the earlier misgivings relative to the dangers of cranial surgery. If the skepticism which still exists in the minds of many physicians can be quelled, then the efforts entailed in compiling the figures in this study will not have been in vain.

Twelve cases have not as yet been classified histologically, 10 of these being definite gliomas and 2 may be called primary sarcomas of the brain. There were 132 gliomas, divided into 48 glioblastomas, 56 astrocytomas, 28 medulloblastomas, 6 ependymomas and 4 oligodendrogliomas. The meningiomas, or dural growths, numbered 21 and there were 15 hemangiomas or tumors of vascular origin. There were 12 pituitary tumors that were operated upon and 4 supra-sella, or so-called Rathke pouch cysts. Six

tumors arose from the sheath of the eighth cranial nerve, these being more commonly known as acoustic neuromas. There were 6 cases of papillomas of the choroid plexus. Seven of the intracranial neoplasms were metastatic, and melanotic sarcoma was the common transplant. There was one cholesteatoma occurring in the fourth ventricle, 1 ganglioneuroma originating in the gasserian ganglion of fifth nerve, and 2 gummas.

The array of terminology is somewhat discouraging to those whose interests are not primarily along neurologic pathways. Yet, with its limitations, the histologic classification serves today to answer the questions of days gone by as to why one glioma patient may survive years after an operation and another glioma patient will die in a few months. The spongioblastomas are the true cancers of the brain and occur in mid-life, growing rapidly in the cerebrum; the temporofrontal region is the most common site for the origin of these malignant lesions. The period from onset of the symptoms to operation in this group averages less than twelve months. It is this large group of gliomas that has earned the neurosurgeon his bad surgical reputation.

The astrocytomas are primarily found in young people, being not uncommon as cerebellar growths in children and cerebral lesions in young adults. Occurring in the cerebellum, pressure symptoms soon develop; but when located in the cerebral hemispheres irritative or destructive symptoms may occur many, many months before the neoplasm is diagnosed. With surgical intervention these patients may live for many years. The medulloblastomas are the most embryonic type of gliomas and are primarily tumors of young children. They more commonly occur as mid-line cerebellar tumors and pressure symptoms and findings usually precede any localizing phenomena. They may occur as cerebral lesions and are found on the average in an older group of young people. These tumors famously transplant by way of the subarachnoid spaces and their nodules may be found in some cases over the hemispheres of the cerebellum or the cerebrum. Spinal cord transplants are frequently found at necropsy. These tumors are radiosensitive, but the question why one patient responds with a period of many years freedom and another derives no roentgenologic benefit has not been answered. Tumors arising from the ependymal cells lining the cavities of the ventricles of the brain are usually demarcated from the normal tissues and, as might be anticipated from the cytologic term, are to be found in the ventricular cavities. They are

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more commonly located in the cerebellum but are not infrequently found in the cerebral ventricles where they may attain an enormous size before the diagnosis is established. The papillomas arising from the choroid plexus are geographically similar to the ependymomas. Small cysts arising from this plexus may give rise to alarming pressure symptoms when located in the third ventricle. Acting somewhat in a ball-valve manner, complete recovery can be expected following their removal.

Meningiomas form the largest group of encapsulated tumors of the brain. These are primarily growths of the cerebrum and arising from the dura, are to be found in every possible location above the tentorium. Localizing symptoms are more likely to be found long before generalized increased intracranial pressure develops. They are fibroblastic in origin and constitute one of the most benign groups of all brain tumors. There are rare instances in which recurrence takes place following complete extirpation; but even in these extremely rare cases survival periods of years have been possible following their removal.

Pituitary tumors arising in the sella turcica vary pathologically from cystic adenomas to true carcinomatous lesions. The clinical picture is usually that of a glandular dysfunction with visual disturbances. Characteristic bitemporal headaches are usually present when the growth attains a size sufficient to produce visual field defects. The acoustic neuromas arise from the sheath of the eighth nerve and may be called a benign group of brain tumors. They are located in the pontine angle and give rise to a classic clinical picture. These growths may develop over a long period of time, being unrecognized and as such offer grave surgical difficulties. If recognized early, complete removal is often possible.

Gummas of the brain are extremely rare although there still exists in the minds of many physicians the thought that these lesions are common. The most common syphilitic invasion of the central nervous system is usually a meningo-vascular or meningo-encephalitic process, and again the histologic classification of brain tumors is responsible for our knowledge of the rarity of the

gumma. The single cases and small groups in this study have been omitted for the sake of brevity and it is hoped that this review of the more common tumor groups will serve to make the clinical facts more interesting.

One hundred twenty-six males and 93 females have been followed, with 10 exceptions, up to May 1, 1937. Among these 10 unknowns there were no post-operative mortalities nor have there been any communications received noting subsequent developments in these particular cases. The location of the various tumors has been summed up as follows: 122 of the tumors were located in the cerebrum, 60 in the cerebellum or posterior fossa, 20 within the lateral or third ventricles of the cerebrum, 14 in the pituitary fossa or as para-sella lesions, exclusive of the meningiomas; and in 3 cases the tumors were located in the mid-brain.

There were 35 cases occurring in the first decade of life, the youngest being 21 months of age. Twenty-six tumors were found in individuals between 10 and 20 years of age. For the middle three decades of life the incidence was almost equal, being 44, 48 and 42 respectively. There were 27 cases found in people between 50 and 60 years of age, and only 2 cases in persons over 60 years old. One is often surprised to learn of a small child being the victim of a brain tumor but, as depicted here, a larger number occurred under ten years of age than did between 10 and 20 years of life. The largest number of cases have been in people a bit younger than persons classed in the cancer age as measured by malignancies found in other parts of the body. The most salient fact exhibited by classing the cases according to decades is that tumor of the brain occurs more commonly up to 50 years of life.

The clinical symptoms of brain tumors have been arbitrarily classified as generalized and localized. The generalized symptoms have been those of increased intracranial pressure, namely, headaches, vomiting and a swelling of the optic nerve heads. To these generalized phenomena may be added generalized convulsions. The localizing symptoms refer to both subjective and objective neurologic dysfunctions that permit the physician to clinically locate the lesion. In these 219 cases, 17 had no generalized pressure complaints and had no ophthalmologic or roentgenologic evidence of any elevated intracranial tension; 198 of these patients had some degree of choked discs, and 196 had vomiting associated with some type of headache. Headaches and vomiting from increased intracranial pressure with choked discs is not uncommon early in the development of the rising pressure, but it was of definite interest that 2 patients had a rela-

tively high degree of choked disc and had never had headaches, nor vomiting.

There were 99 patients in whom some type of convulsion had occurred; 39 were of a generalized nature and 60 were of a focal character. There were 16 cases in which the convulsions were both generalized and localized. It was more common that the focal attacks preceded the generalized seizures but in a few instances jacksonian phenomena occurred after the generalized jerkings had subsided. Not all of the localized convulsions were of a motor character, for in 9 cases the attacks were purely those of altered sensation that had followed a definite pattern on more than one occasion. The longest history among those cases affected with epilepsy was 9 years before a large cystic glioma of the frontal lobe was depicted at the time of operation. From these 99 cases it might be concluded that in an adult patient who suddenly develops convulsive attacks, either of a localizing or generalized character, a tumor of the brain must be excluded where no other etiologic factor can be definitely established.

The value of a careful neurologic examination is stressed by the fact that 131 of the 219 patients presented positive cranial nerve disturbances. A sixth nerve paralysis was the most common finding and in most instances was of no localizing value but was indicative of a marked increased intracranial pressure. A facial weakness, so common in frontal lobe lesions, was excluded as a cranial nerve disturbance for this weakness is of central origin, is contralateral to the lesion and is usually depicted on emotional display. Exclusive of ocular nerve impairments the other cranial nerves involved were the result of lesions located in the region of the cerebellum. In the 6 acoustic nerve tumors three or more cranial nerves were involved in every case. With 131 cranial nerves involved in 219 cases, it is imperative that a patient with a numbness in the face, a facial paralysis, a unilateral tinnitus and progressive deafness, a unilateral palate paralysis, etc., be viewed with the possibility of a neoplasm being present. The further value of a careful neurologic clinical study was emphasized by the fact that 137 of the patients gave a history that contained definite information that helped in making a clinical localization of the tumor. The remaining 46 histories were of no value in arriving at positive conclusions as to the location of the disease. A history of hallucinations of smell or sight, has prompted suspicion of the frontal or occipital lobes. A subjective loss of smell points to the under surface of the temporal lobe. Subjective vis-

ual range changes have led to definite localization with further neurologic study. Strange enough, 172 patients had localizing symptoms on examination. Not in every instance did the 173 subjective localizing histories coincide with the 172 patients who presented positive neurologic findings. As a matter of fact, in a few instances either the history or the examination or both gave false localizing symptoms; and roentgen-ray studies, either plain stereo skull plates or ventriculograms were necessary to accurately establish the location of the tumor.

The value of routine roentgen-ray examination of the skull in brain tumor suspects was emphasized by the fact that 100 of 189 of the patients had positive findings in the skull plates. The abnormal changes as depicted roentgenologically have been mostly convolutional pressure markings, indicative of generalized increased intracranial pressure. There were sella erosions as the result of this pressure, often-times misinterpreted by the radiologist as primary pituitary erosions. The changes in the sella of the verified pituitary cases have all been positive. Other pathologic skull plates have been shifts of the normally calcified pineal gland from its normal position, calcium deposits in tumors and in cystic walls, exostoses overlying the dural growths, thickening of the sphenoid bones beneath an overlying meningioma, and bony erosions from direct pressure of the tumor. In only one instance was there any skull invasion in the small number of metastatic tumors.

The injection of air into the lateral ventricles, with subsequent roentgen-ray studies, was carried out in 84 cases. Not in every instance was this necessary for localization of the tumor but more often as an operative adjunct. Ventriculography carried out in these cases has not been attended by fatalities attributable to this procedure. Several years ago there occurred a fatality following the injection of air into the lateral cavities, but necropsy was not permitted and there is no histologic verification of this case. The dangers of ventriculography are not in the procedure but more in the disease that the studies uncover.

There were 241 operations in 209 cases. There were 9 simple subtemporal decompressions which were carried out as an emergency effort to release a critical increased intracranial pressure or, in the instance of

known intracranial metastasis of extracranial malignancies, for the relief of headaches. There were 4 post-operative deaths where emergency efforts were undertaken. The greater number of craniotomies as compared to the number of cases is accounted for by the fact that in some instances re-operation has been thought justifiable. In one case, after a 6 year interval, symptoms reappeared and a second operation was successful. Exclusive of the intraventricular and cerebellar lesions which could be classed as benign gliomas, no case with a rapidly recurring tumor has been subjected to a second operation.

In those patients requiring a two-stage procedure for a complete extirpation of their tumors, each stage has been listed as a separate operation. There was one patient whose condition was so critical that the operation was planned as a two-stage procedure. The first stage proved too much physical burden and she died before any real attempt at removal of the tumor could be carried out. Among the 209 cases in which accurate knowledge of the survival period after operation is available there are 85 known to be living. The remaining number, with the exception of the 10 patients whose deaths occurred before operation, have had a survival period varying from 6 weeks to 3 years. There were 39 postoperative deaths. If this operative mortality rate of 12.2 per cent serves only to help dispel the skepticism that exists in the minds of many physicians relative to dangers of operating upon tumors of the brain, the time expended in compiling these few figures will not have been idly wasted.

PATHOLOGIC CONDITIONS OF THE SPINE: PAINFUL DISTURBANCES OF INTERVERTEBRAL FORAMINA

Preliminary to a consideration of disturbances of the intervertebral foramina LEE A. HADLEY, Syracuse, N. Y. (*Journal A. M. A.*, Jan. 22, 1938), reviews briefly the anatomy and pathology of the intervertebral disk. There are two distinct types of pathologic change in the intervertebral disk which produce thinning of this structure. Thinning allows the vertebral bodies to approach each other, so that apophysial subluxation or slipping of the posterior joints may result. Pain may be caused by bony impingement of the tips of the subluxated articular processes or by constriction of the intervertebral foramina. Extreme lordosis favors subluxation of the posterior joints. Bony exostoses in the midcervical region produce encroachment of the foramina. Angulation of the cervical part of the spine is traumatic. Fusion of adjacent segments of this portion of the spine is common and may be congenital or acquired. In addition to the characteristic x-ray appearance, patients have pain and tenderness to deep pressure in the neck or back, with restricted motion and muscle spasm. Muscle spasm tends to maintain the overriding, causing a continuance of the pain. Referred symptoms are those of radiculitis; the pain corresponds in distribution to that of the involved nerve root, brachial, intercostal, abdominal and sciatic being the principal divisions. There may be disturbance of the reflexes, muscle atrophy or Dejerine's sign—that is, pain of nerve root distribution on coughing, sneezing or bearing down.

BACTERIAL VARIATIONS IN HUMAN INFECTIONS†*

ROY S. LEADINGHAM, M. D.

Atlanta

Success in specific biologic therapy of infections hinges upon proper identification of causative factors.

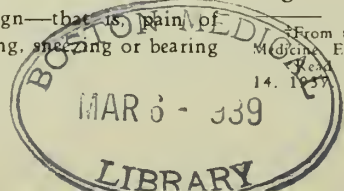
In some infections trauma is essential to the invasion of bacteria. In other instances bacteria gain entrance without any apparent break in the continuity of the tissues.

Bacteria, though usually conforming to special types, may show considerable character variations when they are first isolated from the body. These variations may be in morphology, in biochemical reactions, in pigment formation, antigenic properties, in toxin production, and even in the type of disease produced in experimental animals. They may have their oxygen and food requirements changed, their staining and morphologic characteristics and antigenic properties lost, their reaction to immune serum altered and their pathogenicity increased or attenuated. The significance of these observations is, at the present time, not wholly understood. But they have a very practical value in clinical bacteriology and in the selection of specific therapy in human infections.

An aerobic organism after a period of growth in a circumscribed inflammatory lesion may not grow on the surface of artificial media until it has passed through deep tube cultures. Such was the case with a species of *Escherichia coli* found in a direct smear of prostatic secretion, which at first would not grow on plain or blood agar, and grew only sparsely in nutrient broth. But after several transfers it was cultivated on the surface of the customary solid medias.

Bacteria commonly taking Gram's stain may lose this property and, at the same time other typical characteristics. A child, after a prolonged upper respiratory infection developed pleurisy with effusion. The chest fluid on three occasions was clear and straw colored, and after three days incubation in enriched broth showed a sparse growth of Gram negative cocci which did not appear on plain

From the Department of Medicine, Emory University School of Medicine, Emory University.
Read before the Medical Association of Georgia, Macon, May 14, 1937.



and blood agar inoculated at the same time. Later, however, the organisms began to take Gram's stain and grew on the surface of solid media with the morphologic and cultural characteristics of the staphylococcus.

Bacteria not usually pathogenic may produce human infections. An interesting example of this was the case of a country school teacher who had an osteomyelitis of the external auditory canal from which a spore bearer, *Bacillus ruminatus* Gottheil, a soil bacterium, was isolated. This organism also predominated in cultures from the nasopharynx.

The clinical significance of these observations is apparent in diagnostic procedures. First of all, it is important to provide culture media that will approximate environmental conditions within the host from whom the bacteria are taken. Second, sufficient time must be allowed for the bacteria to demonstrate their cultural and biological characteristics. Third, associated and contributing factors in inflammatory lesions, such as chronic trauma, systemic disturbances, and symbiosis of organisms in a flora, must be taken into consideration when evaluating the significance of bacterial growth. For instance, the presence of Vincent's organisms about the teeth may not be as important a clinical fact as faulty occlusion. These organisms may also be found in mouth lesions associated with blood dyscrasias. In one instance the writer observed an acute Vincent's ulceration of a lymphosarcoma of the tonsil.

From a therapeutic standpoint, and especially in vaccine and specific serum therapy, one should not proceed with the administration of these remedies without a knowledge of the bacteria present. Exception might be made in cases of suspected diphtheria, but here also clinical judgment is often faulty. Recently, a child appeared with a membranous exudate in the pharynx that resembled one produced by the corynebacterium diphtheriae. It had the characteristic color, was tenacious and left a bleeding surface when removed, but the bacteria causing it was the *staphylococcus aureus*.

There is probably no more greatly abused therapeutic procedure than vaccine therapy. Often the selection and use of vaccines is based entirely upon the clinical nature of dis-

ease and a wild conjecture as to what bacterium, if any, is the cause of the disorder.

Vaccines should be prepared to meet specific needs, care being taken to preserve the antigenic property of the organisms. Cultures of organisms with predominating rough colonies agglutinated by normal saline do not possess the antigenic properties of those with predominating smooth colonies.

Vaccines are used empirically too frequently. If clinical improvement follows their administration they are given credit, rightly or not, and if no improvement results vaccine therapy is condemned.

Conclusions

The outcome of infections depends primarily upon the invasive and toxic virulence of bacteria which become, for a time at least, parasitic microorganisms.

Within the tissues of the body, in contact with natural or acquired forces of defense, virulence may be altered and the morphologic and serologic and morphologic characteristics may be changed.

Specific biologic therapy should be indeed specific, and vaccines and sera should not be used haphazardly without any understanding of objectives to be gained.

A study of their records of human heart sounds and those reported by Lewis, Wolferth and Margolies, and Houssay has strengthened the conviction of J. K. LEWIS and WILLIAM DOCK, San Francisco (*Journal A. M. A.*, Jan. 22, 1938), that the three normal heart sounds are due to sudden tensing of valve leaflets, with no appreciable muscular element. The intensity of the first sound depends chiefly on its relation to auricular emptying, passive or active. When systole interrupts rapid ventricular inflow the first sound is loud regardless of all other factors; if systole occurs after such a phase has closed the sound is faint, even though the contraction is vigorous and the myocardium normal. The gallop sounds are accentuations or variations of sounds present in many normal persons, but while the normal sounds are common in young adults they are rare in normal persons at the age when myocardial failure is most frequent. Presystolic gallop and weak first sound are caused either by altered conduction of the activation wave in the heart or by myocardial failure. The electrocardiogram is therefore valuable as an aid in interpreting these signs of disturbed cardiac function.

The American Board of Obstetrics and Gynecology announce that oral, clinical and pathological examinations for all candidates (Groups A and B) will be conducted by the Board in San Francisco, Cal., June 13-14, 1938, just prior to the meeting of the A. M. A.

AINHUM (*Dactylolysis Spontanea*)

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Ainhum, or dactylolysis spontanea, as described in text-books is a disease characterized by a constricting ring, furrow or groove of long standing, which encircles, usually the little toes at the digito-plantar fold, forming a fissure which gradually increases in depth and length and as it deepens cuts off the circulation and finally due to injury or gangrene produces a spontaneous amputation of the toe. The distal part of the toe is usually larger than normal size and before falling off assumes the form of a tumor hanging by a pedicle to the rest of the toe. The constricting ring usually is found near the proximal joint of the toes, and may be either unilateral or bilateral, and amputation usually takes place through the middle of the phalanx. Pain may or may not be a symptom.¹

Cases of ainhum have been reported by various writers but Clark,⁷ in 1860, saw this condition among the natives of Africa and described it as "dry gangrene of the little toe." In 1867, da Silva Lima⁸ of Brazil described the condition and called it ainhum. According to Matas³ the word is derived from the Brazilian Negro patios and means "fissure."

Most of the cases of ainhum reported have occurred in the negroes of Africa and Hindu, but some cases have been reported from China and India.⁴ Very few cases have been seen in white persons. Up to 1911 only 30 cases had been reported in the United States.¹ There have been 2 cases reported in Alabama.² I have been unable to find a single case reported as having occurred in Georgia. Abbe⁵ reported 1 case that was seen by him in the District of Columbia in a negress who was born in Augusta.

Etiology

The true cause of ainhum has never been definitely known. Many etiologic factors seem to exist. In the American cases it is nearly always seen in well developed, healthy Negro males; only a few cases have been seen in Negro females and white people. The disease is usually seen in the little toes but very rarely other toes, or the fingers may be involved.

The theories that have been given as causing ainhum are:

1. Trophoneurosis³
2. Trauma. irritation of toes while going barefoot, the wearing of rings on toes, self-mutilation⁹
3. Chiggers⁶
4. Heredity
5. Syphilis
6. Infection¹¹
7. Scleroderma¹²
8. Leprosy¹⁰

Due to the various theories advanced, it is quite possible that there is no definite and separate etiology.

Pathology

Pathologic examination of the constricting ring and distal and proximal parts of the toe was made by Castellani¹¹ and by Alldredge² and others. From the reports from various pathologists, Bloom and Newman¹ gave the following summary of the pathologic process: "The constriction takes place through proliferation of the epithelium and fibrosis of the cutis. Depending on the progress of the constriction, the tissues underneath the ring show more or less atrophy, and the bone shows rarefying osteitis, and ultimately destruction and absorption. The blood vessels in the part of the toe distal to the constriction show endarteritis and periarteritis; and, because of interference with circulation, the soft tissues show fatty degeneration and edema. The part proximal to the ring shows atrophy. Separation of the toe takes place through the shaft of the bone or through an interphalangeal joint.

Symptoms

The disease is usually seen in male negroes. It most commonly affects the little toes but may affect any of the toes and very rarely involves the fingers. It is characterized by the slow development of a narrow constricting band, a fissure or groove, which gradually completely encircles the toes. Pain may or may not be present, but is usually complained of in the last stages. Due to the constriction ring, the toe swells and is gradually amputated.

Treatment

Practically all writers agree that the treatment for ainhum is amputation of the affected member above the constricting ring. For a while some tried to cure the condition by longitudinal incisions of the skin perpen-



Fig. 1
Roentgenogram—showing bone changes in ainhum.

dicular to the constricting ring, but this was nearly always followed by recurrence.

Case Report

C. M., a Negro male, aged 42, was seen by me on Sept. 8, 1937. His chief complaint was pain in his little toes, especially his right little toe: For several years (five years in the left and four in the right), he had noticed a constricting ring around both little toes. The ring was located in the digito-plantar fold and had formed a deep furrow so that the left little toe was practically amputated, only being attached by a thread-like fibrous tissue pedicle. The right toe had been very painful and the fissure completely encircled the toe. In both toes the furrows had begun on the inside of the toe.

The patient was born and reared in Quitman County, Ga., and had never been out of the State except to come to Alabama. His past illnesses included typhoid fever in 1928; and an accidental gunshot wound in 1930, resulting in loss of left eye. He had always been in excellent health and had always worked on a farm. No other member of his family had ever had a similar condition.

The patient was a well developed and well nourished Negro male. He was of normal intelligence. His height was 6 feet; weight 184 pounds. General physical examination showed nothing out of the ordinary except the loss of his left eye and an unusual condition of both

little toes. His blood pressure was 140/82. Heart and lungs were normal. Neurologic examination was normal.

Both little toes were striking in appearance. The left little toe was practically amputated by a deep constricting groove near the digito-plantar fold and was only attached by a small fibrous band. The distal end of the toe was almost spherical in contour. The toe was not painful when moved. The right little toe showed much the same condition except that the constricting ring was not so deep and the toe was very painful to the patient when moved.

The urine was normal. Blood Wassermann reaction was negative. Blood sugar was 90 milligrams. Blood count showed: R.B.C. 5,200,000; W.B.C. 7,000 with polymorphonuclears 65 per cent, mononuclears 31 per cent and eosinophiles 4 per cent. Smears for malaria and sickle-cell anemia were negative.

Roentgenographic examination of both feet showed:

Left—There were marked bony changes and changes in the soft parts of the little toe. There was complete destruction of the middle portion of the first phalanx and a ring-like absence of soft tissue.

Right—The process was the same as in the left, except the process of atrophy in the little toe in the first phalanx was only partially complete. The bone process was an osteitis.



Fig. 2

Photograph showing ainhum of right and left little toes.

There were symmetrical exostoses on the medial and lateral borders of the terminal phalanges of the great toes. X-rays of the hands showed no pathologic changes.

Treatment: On Sept. 25, 1937, under local anesthesia, the toes were amputated and recovery was prompt and uneventful.

Comment

So far as I can ascertain this is the first case of ainhum reported as having occurred in Georgia. It is a mysterious tropical disease which is seldom seen in the United States, and its relative infrequency is my reason for adding this case report to the literature.

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Mead Johnson & Company, Evansville, Indiana, offers the use of an unusual motion picture, *The Birth of a Baby*. In a recent announcement it is stated: "On account of the unusual interest with which this new motion picture (35mm. with sound) was received at the recent meetings of the American, Canadian and Ontario Medical Associations, you may deem it of timely interest to mention the subject editorially or as a news item."

The publicity copy has been passed upon by the American Committee on Maternal Welfare.

The film will first be shown to each state medical society or in the larger cities to the city or county medical society.

TROPICAL SPRUE

Report of Case

JOHN R. ROSE, M.D.

Unadilla

Tropical sprue has been known to exist in the Southern States since 1900 but it occurs so rarely or it escapes diagnosis so often that it is not amiss to call attention to it again. I have been able to find only a few reports from Georgia in the medical literature examined by me. In 1905 St. J. B. Graham of Savannah¹ reported some cases; in 1907, H. F. Harris of Atlanta¹ and, in 1925, W. H. Lewis² of Rome, and others. Sprue has also been recognized in Virginia,³ North Carolina,⁴ Texas, Louisiana and Alabama.⁵

In the opinion of recent investigators sprue belongs to the class of metabolic disorders due to a vitamin deficiency and, as in pellagra and pernicious anemia, the G fraction of vitamin B may be involved. However, pancreatic as well as hepatic insufficiency, intestinal diseases due to inadequate or unbalanced diet, heat depression of the tropics and intestinal infestation with a yeast-like fungus⁶ have been given by others as causes of this condition. A careful examination of the literature is apt to create the impression that tropical sprue as found in temperate climes is more of a clinical picture than a clear-cut disease with constant pathologic changes. Most modern writers are of the opinion that in certain stages and under certain conditions it is impossible to distinguish sprue, pellagra and pernicious anemia.

If a vitamin deficiency is present in all three (and there seems little doubt on that point), this deficiency is probably the cause of the blood picture. It has also been suggested that the normal liver contains an anti-hemolytic factor and that when through disease this factor has been lost or inactivated, active hemolysis sets in, finally resulting in an exhaustion state of the bone-marrow.⁷ It is, however, an intriguing and significant fact that the anemia in all three is relieved by the same medicament, the G fraction of vitamin B. Unfortunately this remedy only relieves symptoms, thereby probably improving the patient, but does not cure the disease.

The pellagrin is still subject to recurrence of dermatitis, stomatitis and nervous disorders unless an adequate diet is also instituted;⁸ the sufferer from pernicious anemia still has his atrophic gastritis and spinal cord degeneration;⁷ in sprue it is perhaps true that a diet rich in vitamin G together with carbohydrate starvation will clear his gastrointestinal tract of fungi but his gastrointestinal condition, which made the infestation possible, must be relieved by other means.

Therefore, even though the avitaminosis of the three diseases be not the primary cause, it is easy to understand why in certain stages the symptoms are much alike: When factors unrelated to the primary factor have caused atrophic changes in the gastric glands, degenerative changes in the cord and disease of the bone marrow, we call the picture pernicious anemia; when other or perhaps the same toxic factors affect the nervous system, the spinal cord and the skin, we have the syndrome of pellagra; when the disabled lining of the alimentary tract is infested with certain fungi to cause excessive fermentation and gas formation with stools characteristic of the condition, we call it sprue.⁹

This deficiency is said to interfere with proper glandular action in all parts of the body and especially in glands of the digestive tract. As a consequence the secretion of acid by the stomach is lessened. The pancreatic juices, being dependent on proper acidity of the gastric secretion, soon become deficient both quantitatively and qualitatively. Severe intestinal indigestion soon supervenes. With the implantation of certain fungi of the *Monilia* group, harmless in a normal bowel, the first result is generally a sharp intestinal upset followed shortly by a diarrhea with unusual features. The feces are like those of both hepatic and pancreatic disease; they are pale gray, pulpy, acid, massive, out of all proportion to the intake of food; they are foamy from admixture with gas and greasy with undigested fat. It is a fatty diarrhea with a color due not to the absence of bile but to the fact that the bilirubin is changed to colorless hydrobilirubin. However, the stools have a feature considered diagnostic, an odor that is hard to forget and equally hard to describe, a vile carrion odor; at once sour and aromatic.

Lately Hanes and McBride¹⁰ have suggested that sprue and celiac disease have the same etiology, a vitamin deficiency; they look upon celiac disease as the analogue of sprue in childhood and claim that both are cured by the same treatment. In sprue as in other so-called deficiency diseases the effect on the body is at first only disordered function but in cases of long standing there have been found somatic changes in both liver and pancreas, mostly of an atrophic nature.

The fauces, tongue and buccal cavity may be normal at first or merely suffer fleeting attacks of mucosal irritation. Later there may be permanent signs of irritation with erosions, fissures and small ulcerations on the tongue causing a great deal of suffering or there may be the so-called Crumbie ulcer on the gums in the molar region.

The blood picture may at last show severe anemia, sometimes even of the pernicious type; doubtless this has often caused confusion between the two conditions. However, in the beginning there may even be a polycythemia with high hemoglobin. Ashford⁶ ascribes this symptom to overstimulation of the bone marrow through toxic factors.

This disorder is of a chronic nature, lasting with remissions for many years. There is a steady decline in health and strength and often with a great loss in weight. Unless proper treatment is given, in time sprue ends through starvation, sepsis, or intercurrent disease.

Sprue is common in some tropical countries and almost unknown in others; it has been reported from England, Germany and other parts of Europe as well as from most southern and some northern states of this country. In temperate regions the disease seems less virulent than in the tropics.

Remedial measures range all the way from turnip greens and pot liquor, bananas and strawberries, through intestinal antiseptics, like salol, betanaphthol and cresol compounds and even calomel, to such vitamin storehouses as milk and liver. Yellow santonin and emetin as well as ipecac have been used with apparent success, probably in those cases with protozoan and nematode infestations, and lately Ashford⁶ and Michel¹¹ have perfected a

Monilia vaccine from which they claim good results.

The modern trend in treatment appears to be first to overcome the gastric and pancreatic dysfunction with massive doses of hydrochloric acid. The acid must be given in a dose sufficient to supply normal acidity to the gastric juice. Later one tries to relieve the vitamin deficiency with large quantities of milk and beef. Three quarts of milk or one pound of beef must be given daily. Considering the fact that these patients generally suffer from extreme anorexia, this is not an easy matter. Should these measures be inadequate, it is necessary to give fairly large amounts of liver, raw, cooked or in extract. The carbohydrate intake is cut down to a minimum and fats are eliminated.^{5,6}

The diagnosis of a fully developed case of sprue should offer no difficulties; a fermentative diarrhea following a long spell of digestive upset with feces of the type described would be suggestive of sprue even in the absence of demonstrable fungi of the Monilia type.

The pre-sprue nutritional imbalance is difficult to evaluate for indigestion is the reaction to many diseases. However, chronic indigestion with a distinct hypochlorhydria, excessive gas formation, evidence of mucosal dysfunction in different parts of the body with signs of irritation in the bronchi, the fauces, the mouth and nose, would probably point to some metabolic disorder in the shape of an avitaminosis of perhaps A or B or G, and would very likely be benefited by treatment with acid, milk and liver or even vitamin A concentrate.

The Monilia infection I am about to report is my own, my personal experience. I have been able to find only one report of a physician contracting the disease; he was infected on board ship during a trip to Puerto Rico where he came in contact with some sprue sufferers. No statement was made of his physical condition before that time or whether he was on that trip on account of his health. He only claimed to have cured himself and several others with massive doses of betanaphthol.

I have never been to Central America or any other tropical country. I have lived in Georgia for 49 years with the exception of five years spent in practice in

Titusville, Florida. I am now 81 and up to less than two years ago I was hale and hearty, except that I have always had a sensitive stomach since a gastric attack about 50 years ago; this was pronounced peptic ulcer and was finally relieved by a long course of bismuth. Later I developed chronic indigestion with flatulence and abdominal pain that had all the earmarks of appendicitis. About three years ago I had an operation for ruptured appendix. Convalescence was uneventful after a few stormy days and my physical condition improved wonderfully. Always underweight before, I then began to gain till my weight was about normal for my height and age; my appetite was good, my digestion splendid and I felt fine.

About six months after the operation my indigestion returned from no cause that I could then conceive. By bitter experience I had learned what I thought was the right diet for me: I had been living for years on milk, bread and butter with plenty of fruit and green vegetables; steak, chicken or pork very rarely. I now feel sure that the diet was inadequate both in quantity and quality, that there was insufficient protein and excessive carbohydrate, especially of the concentrated form as I was very fond of sweets. This faulty diet doubtless culminated in a condition of nutritional imbalance, a deficiency syndrome with far-reaching effects on glandular and epithelial tissues.

These new attacks of indigestion, at first occasional, finally became constant and I soon began to lose weight. These attacks were different from those of old which had been frequently relieved by an alkali. The new attacks were made worse by alkalies and were helped by hydrochloric acid. Now to a person of my age with a background of possible gastric ulcer, this looked ominous. Gastric analysis showed free acidity of 15, total 26; microscopic examination proved negative for Boas-Oppler bacilli and so was the test for lactic acid. For the hypochlorhydria I took thirty drops of dilute hydrochloric acid with my meals and it helped me greatly; I began to feel normal again and lost my fear of malignancy.

Suddenly from some unknown cause I had a severe intestinal upset, like cholera morbus, that yielded to medication in a few days. This was followed by persistent constipation. The constipation was ended by a diarrhea with five or six massive pale gray, pulpy stools that microscopically showed nothing abnormal except large amounts of undigested fat that at first I took to be mucus. These stools were very acid with a horrible odor. They were negative for protozoan and nematode infestation; this I had verified by the State Board of Health Laboratory. This diarrhea was singular in that the first call generally came about 4 a. m. with such imperative demand for attention that I placed a commode at the bedside. There would generally be two or three stools before breakfast and often two more before dinner.

On checking over the causes of diarrhea I found that a diagnosis of sprue would fit my case nicely so I took the sprue idea to a medical friend with the request for a check-up. The result was: blood pressure 128/80, which pressure has been normal for me for years; a polycythemia of nearly six million, hemoglobin 100 per cent, leukocytes 13,000, tongue and mouth nega-

tive, proctoscopic negative, feces negative except for free fat. On the strength of this my friend declined to agree with my diagnosis, congratulated me on my fine physical condition and seemed inclined to make light of the matter. Certainly the classic textbook picture of sprue, with its glossitis, anemia and emaciation (I had lost but four pounds in about sixty days) did not fit my case but my condition did not improve and I began to lose weight rapidly.

Shortly before this check-up I had sent another specimen of feces to the State Board of Health with the request to examine it for mycotic infection, especially the sprue fungus. In due time the Board reported that a *Monilia* had been found and that it had been sent to Washington for verification. Washington finally reported that the fungus was an *Oidium*, which seems to be another name for *Monilia*. *Oidium albicans* and Ashford's *Monilia psilosis*, the supposed etiologic cause of sprue, are considered by most writers as the same organism without morphologic or cultural distinction.

Upon receipt of this report I started at once to carry out Ashford's dietetic treatment. This consists principally of protein, a pound or more of beef a day with plenty of fruit and green vegetables, no other carbohydrate and no fats. His diet sheet calls for less than a pint of milk a day and hydrochloric acid seems to be a negligible medicament. I tried this for a month but my distaste for food, especially beef, was so great that I could not eat even half a pound of meat a day. I kept on losing flesh and the diarrhea was no better at the end of a month. The failure of Ashford's treatment I blame only on myself for others who have tried it have written enthusiastic reports; it is the meat cure as opposed to the milk cure and each one probably has its proper place.

My condition at that time was rather annoying; my mentality did not seem affected but I certainly was upset by my inability to accomplish anything. I finally wrote to Dr. Seale Harris of Birmingham for advice. He suggested a diet more general and more liberal than the one I had been taking: five or six pints of milk a day with a teaspoonful or more of the acid in each glassful; a normal diet of protein, green vegetables and fruit but limitation of carbohydrates and omission of all fats except milk fats. He also advised large amounts of liver, preferably Lilly's 343 ampoules. Believing at that time that the anti-anemic fraction of liver was just a builder of hemoglobin, since I was not anemic I decided to omit the liver therapy. Investigation, however, proved that the anti-anemic function of the liver is rather more complicated.

I carried out the rest of Harris' treatment with a result that was truly surprising and was not long in coming. By personal test I proved to myself that a half pint of milk is capable of binding nearly a teaspoonful of dilute hydrochloric acid, making a smooth, palatable, slightly acid drink, somewhat like fresh buttermilk. I always added an excess of acid to the milk so as to, as I thought, have enough for the digestion of the meat I was eating. Whether this was based on sound natural law or simply a figment of the imagination, I don't know for I carried out no experiments in that line; all I know is that it worked and

that I had no trouble with my digestion even later on when my appetite returned and I consumed fairly large amounts of meat with my milk. In fact, the first improvement I noticed was the loss of my distaste for food and the return of a fair appetite; the excessive gas formation in stomach and bowels quickly subsided; the atrocious odor soon cleared up, the color of the stools, in spite of the large milk intake, darkened and the diarrhea gave place to apparently normal bowel movements. As improvement proceeded I was forced to decrease both milk and acid on account of unpleasant cystic irritability; my weight became stationary and then began to increase till I was nearly the weight at the beginning of the complaint.

There were several symptoms that antedated the diarrhea for a time but which were passed over by me then as unimportant. In the beginning, in addition to the disturbed digestion, I noticed at times the tip of my tongue would become irritated and slightly sensitive but as this never lasted more than a day or two I paid but little attention to it. Another very unpleasant symptom that appeared long before the diarrhea and was practically relieved by the treatment I can describe only as mucous disease of the upper air passages: the nose and throat were constantly filled with a tough, thick, stringy mucus that caused a great deal of annoyance by the hawking, coughing and spitting necessary to get rid of it; in spite of the apparent irritation there was no sign of congestion, no swollen turbinates or painful sensation. Even today, though the mucous discharge is practically gone, there seems to be left a certain nasal irritation that gives rise to occasional attacks of sneezing that is quite troublesome.

However the irritability of the pharyngeal, nasal and buccal mucosa was not the only sign of mucosal dysfunction; for some time I had noticed a burning of the conjunctiva with a sticky, watery discharge which I accepted as a condition of advancing age but as it has entirely disappeared, it possibly may have had a different origin.

Another unpleasant symptom that I am glad to say has left me with my return to health was a tetany-like cramp of the lower extremities, the feet, the calves and even the thighs, not only at night but also in the daytime, and a painless contracture of the adductor muscles of the thumbs that sometimes lasted a minute or two.

Whether all this was symptomatic of the disease or simply expression of an avitaminosis or perhaps just accidental happenings is probably difficult to explain but in a report by Fleisher and Wachoviac⁹ I find similar symptoms noted. All these unpleasant symptoms were in evidence long before the diarrhea and if, as seems possible from late experiments by Cowgill and others,¹³ a vitamin deficiency interferes with the protective function of the mucosal epithelium, these symptoms might be explained that way.

That I have had a case of clinical sprue, there can hardly be any doubt; whether the term "tropical sprue" should be applied only to those cases in which the *Monilia psilosis*, Ashford, is found for whether this fungus is just a virulent variant of the *Oidium albicans* and found only in tropical countries, seems still undecided. It is hardly open to question that under

favorable conditions other members of the *Monilia* group are capable of setting up sprue-like disturbances. The sprue fungus has been found wherever the mucous membranes were favorable to its colonization, in the bowels, the stomach, the esophagus, the mouth and tongue, the bronchial tubes and even in the pyorrheal pus and the blood stream. The many members of this group, harmless saprophytes outside the living body, are constantly found in transit through the gastrointestinal canal of both human beings and animals without causing disease; it is only when they are afforded a propitious medium in the gastrointestinal tract or have been adapted by growing on human tissue to become human parasites, that they colonize and produce sprue.⁶ The communicability of this disorder seems still *sub judice* but no doubt in tropical countries, where the intestinal tract is generally the seat of abnormal conditions—at least among Caucasians and those of mixed blood—the sprue fungus has become so virulent through generations of growth on human tissues that it may even become a parasite on the normal human mucosa. This the thrush fungus of temperate climes, the *Oidium albicans*, has never been known to do; it becomes a parasite only when mucous tissue is vitiated by disease or injury. Therefore in tropical countries sprue might be classed as a disease capable of spreading by contact while in cooler countries it is rare and sporadic. In regions where either through faulty diet, lack of sanitation, heat depression or other causes, the inhabitants have bowel conditions favorable to that type of fungus, communicability would be easy while in other regions where this condition is rare, communicability would also be rare and contagion nil.

Reverting to my own mycosis, I had been apparently well for several months; I had continued the diet and especially the milk and acid for I found that a let-up of the acid-milk at once brought back signs of indigestion with gas and intestinal unease. My bowel movements were normal and regular. I felt fine and was able to attend to my practice without undue fatigue. Increase of the carbohydrate intake by adding a plate of whole grain cereal to my breakfast had no appreciable effect for a while but suddenly a diarrhea returned though different from the former. The actions were not bulky but pulpy to liquid, of light color, without evil odor but with small amounts of undigested fat. The cereal was omitted and the milk and acid increased but without effect; pancreatic extract seemed to take care of the increased gas formation but had no effect on the stools. I was losing weight again. The red blood count which was nearly 6,000,000 at the beginning, had dropped to 4,000,000. Before improvement began I was losing my pep, was easily fatigued and did not feel well at all.

I then turned to intensive liver therapy, liver extract equal to about four ounces of liver a day and 5 c.c. of Lilly's solution 343 a week intramuscularly. Three weeks' treatment with this had a stimulating effect and the red cells increased to over 5,000,000. I felt better but had no appetite and I had lost about 16 pounds. The liver treatment seemed to irritate the kidneys. Urinalysis showed a specific gravity of 1.035, but no albumin or sugar. The output of urine was

from 56 to 60 ounces. The diarrhea remained the same.

Remembering an article read some time before as to the effect of vitamin A deficiency on the intestinal canal, I suspected a similar deficiency as the cause of my inability to assimilate food. Intensive treatment with vitamin A was therefore undertaken, about 30,000 Sherman units a day. Under this treatment there has been distinct improvement, both in appetite and bowel movements. I am still taking it in half of the original dosage.

If the older writers were correct that there is no cure for sprue, it may break out again years after the primary relief; if modern writers are to be believed, then old age is a bar to permanent cure. So what? At any rate I hope this unfavorable prognosis applies only to cases of long standing with somatic changes in liver and pancreas; for the rest I try to cultivate a mental attitude of watchful waiting.

Conclusion

That the so-called sprue syndrome exists sporadically in other countries outside the tropics, there can hardly be any doubt; the generally accepted etiology today is that it is a fungus infection of the intestinal canal; various observers have shown that the etiologic factor is not always the same, at least in temperate climes but that different organisms, always belonging to the *Monilia* family of yeast-like fungi, may be implicated; it is equally evident that all the symptoms can not be ascribed to the colonization of these pathogenic fungi on the intestinal mucosa but that there are at least two disease conditions, each giving rise to a different set of symptoms.

The peculiar sprue diarrhea no doubt is the direct result of a fungus implantation on an already diseased intestinal mucosa but practically all the other symptoms seem to be the expression of a pre-existing avitaminosis, perhaps aggravated and made more prominent by this new indignity to the organism.

The deleterious effect of insufficiency or absence of vitamin A in the food on practically all glandular structures in the body has been proved beyond doubt and the intestinal glands, the liver and pancreas have

been shown by recent experiment to be the site of destructive changes in this condition which fact would explain practically all the other symptoms found in the sprue syndrome.

Proper diet and necessary medication doubtless improve gastric and pancreatic function, starve out the fungi and may even relieve the underlying deficiency yet it may not, which made the older writers believe sprue to be an incurable disease. The oral use of liver or B₂ parenterally evidently furnishes the organism with something the sprue liver has lost, something that acts as a check to reticulo-endothelial overactivity in the destruction of erythrocytes. Liver stops the anemia, brings the erythrocytes up to normal and so increases the resistance of the body to infection; the fungi disappear, the health improves and the patient is cured or apparently. But if the avitaminosis is not entirely relieved, in time the same symptoms can supervene, the liver again can become the seat of degenerate changes, anemia can again develop and in time a second colonization of fungi may come about with a second attack of sprue. Such appears as my experience in the case just reported, only I did not wait for a second fungus implantation; realizing that my condition pointed to a deficiency of vitamin A, intensive treatment with this made my troubles vanish like fog before a noonday sun.

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CLAUD BURTON CRAWFORD, M.D.

Blue Ridge

AUTOBIOGRAPHY

Dr. Claud Burton Crawford of Blue Ridge, has the distinction of being the oldest officer in point of service in a county medical society in this State. Dr. Crawford has served continuously as the secretary of the Blue Ridge Medical Society, composed of the counties



CLAUD B. CRAWFORD, M.D.
Blue Ridge
Secretary Blue Ridge Medical Society,
33 Years, 1905-1938

of Fannin, Gilmer and Union, since its organization in 1905.

Dr. Crawford was born at Morganton, Fannin County, Georgia, Sept. 25, 1873. He received his first schooling in the grammar school of his native town, and later entered the Blue Ridge Seminary, Blue Ridge, from which he was graduated after three years' study. In 1891 he began his instruction at the North Georgia Agricultural College, Dahlonega, and was for a time interested in literary work. In 1903 he decided to study medicine and soon matriculated at the Atlanta College of Physicians and Surgeons, Atlanta, where he stayed one year. Later he studied medicine at the University of the South, Sewanee, Tennessee, but believing the medical schools of the larger cities possessed greater clinical facilities, he entered the Birmingham Medical College, Birmingham, Alabama, where he received his M.D. degree on April 5, 1905, being the first four-year student to graduate from that institution.

Dr. Crawford has practiced medicine continuously at Blue Ridge since 1905, and has been active in the civic affairs of his county and State. He served for several years in city council of his city, and one term as mayor. He is city physician of Blue Ridge, and county physician for Fannin County.

Dr. Crawford's family consists of his wife and one son, Ernest B. Crawford, who is a druggist. In addition to his duties as a physician, Dr. Crawford and his son operate the Central Drug Company at Blue Ridge, which has been maintained successfully since 1921.

THE MEDICAL ASSOCIATION OF GEORGIA congratulates Dr. Crawford on his long and honorable service to organized medicine, and wishes for him and his family much happiness in the years to come.

THE JOURNAL

OF THE

MEDICAL ASSOCIATION OF GEORGIA

Devoted to the Welfare of the Medical Association of Georgia

478 Peachtree Street, N. E., Atlanta, Ga.

FEBRUARY, 1938

THE WOMAN'S AUXILIARY

The Woman's Auxiliary to THE MEDICAL ASSOCIATION OF GEORGIA was organized in Augusta May 23, 1924. Mrs. C. W. Roberts of Atlanta served as temporary chairman. Mrs. James N. Brawner of Atlanta was elected the first president, and the following ladies have been chosen for subsequent years: Mrs. William H. Myers, Savannah; Mrs. C. W. Roberts, Atlanta; Mrs. Paul Holliday, Athens; Mrs. Charles C. Hinton, Macon; Mrs. Marion Benson, Atlanta; Mrs. Charles C. Harrold, Macon; Mrs. Ralston Lattimore, Savannah; Mrs. S. T. R. Revell, Louisville; Mrs. J. Bonar White, Atlanta; Mrs. John E. Penland, Waycross; Mrs. Ernest R. Harris, Winder; Mrs. William R. Dancy, Savannah, and the present incumbent, Mrs. Ralph H. Chaney, Augusta.

Twenty-three charter members from seven county auxiliaries made up the first gathering of the Auxiliary. At the meeting in Macon last year the organization had grown to twenty-five auxiliaries, representing thirty-four counties and four hundred fifteen members. Not only has the Auxiliary grown in numbers but in usefulness as well. Under the capable leadership of its officers, together with the cooperation of the members, it has assumed the position of a most valuable adjunct to THE MEDICAL ASSOCIATION OF GEORGIA.

Before the Medical Association thought of having a Public Relations Bureau the Auxiliary had an active public relations committee. Through this committee it endeavors to secure the active cooperation of other state organizations, notably the various women's clubs, in order to further the educational aims of our Association. The committee supplies speakers to these clubs to discuss medical topics with which the public should be acquainted, and distributes medical information in the form of pamphlets to their members. The Auxiliary has been very active in trying to spread the value of a basic science

law for Georgia. These public relations committees are now part of the organization in many of the county auxiliaries, and THE MEDICAL ASSOCIATION OF GEORGIA might well seek to appropriate this good work for use in each county medical society.

The Auxiliary sponsors regional health programs; has distributed 5,000 pamphlets on the control of tuberculosis, and 10,500 on cancer for the Cancer Commission of our Association; has printed and distributed 20,000 leaflets on such timely topics as *How to Care for the Heart*, *Whooping Cough*, *Posture*, *Pneumonia*, *Lighting the Home*, *Skin Diseases of Children*, *Those Glasses We Wear*, *Fever*, *Parent's Responsibility in Disease Control*, *Helps to Health*, *Georgia Mothers*, and *Suggestions for New Mothers*; aids with the sale of Red Cross Christmas seals; sponsors health talks over the radio and obtains space in newspapers for the same purpose; has contributed to the Warm Springs Foundation in honor of President Roosevelt, and all members have studied health conditions in counties and cooperated with health agencies in disease prevention. The program for this year calls for an elaboration of what has already been accomplished and, in addition, a close working agreement with the Public Relations Bureau of the State Medical Association; aiding with educational talks, particularly those dealing with venereal infections and maternal mortality. All of these are undertakings worthy the effort of any group, and their accomplishment is sufficient evidence of the very great enlightening influence the Woman's Auxiliary is to the people of our great State.

The sphere of usefulness of women in the every-day affairs of life has gradually broadened, and since they have been granted suffrage, their duties and responsibilities as citizens have assumed commensurate proportions. Women are better moulders of public opinion than are men. Frequently physicians seek to have legislation enacted in the interest of the public, and the Woman's Auxiliary can, and is willing, to give support in such altruistic endeavors. Certainly, this writer has always found the women ready to lend a helping hand.

There are some sections of our State in which the Auxiliary lacks organization, but

it is believed that when its real worth is understood and brought to the attention of the wives of the physicians in these localities that they will wish to establish local chapters of this great organization.

A most useful work the Auxiliary has recently done is to solicit funds for the Public Relations Bureau of THE MEDICAL ASSOCIATION OF GEORGIA, and I wish to tender my sincere thanks for their efforts. They can be of great assistance in carrying forward the work of the Bureau, for after all, the labor of instructing the public resolves itself into interesting individuals in the problems at hand, and who can do this better than women?

It is hoped that every physician's wife in Georgia will make an effort to attend the annual session of our Association and the Auxiliary in Augusta, April 26-29, Forest Hills Hotel—and bring her husband—and, if not already a member, ally herself with this rapidly-expanding and worth-while body of women.

GEO. A. TRAYLOR, M.D., *President.*

CRAWFORD W. LONG MEMORIAL ASSOCIATION OFFERS PRIZE

Dr. Crawford Williamson Long of Jefferson, Ga., made his epochal discovery of the anesthetic properties of ether eighty years before The Crawford W. Long Memorial Association was organized. This Association has, nevertheless, made considerable progress during the past fifteen years despite the fact that more than one-half of its founders have died. Under the able leadership of the president, Dr. Frank K. Boland of Atlanta, the Association raised by subscription more than eleven thousand dollars to pay for Dr. Long's statue which was erected in Statuary Hall at Washington, D. C., to properly honor this great scientist as well as to remind all citizens of this and other countries that a Georgian achieved his life's ambition: to minister to suffering human beings without causing them additional pain.

Other activities of the Memorial Association have been numerous. Various members have made contributions to the history of anesthesia, others have gathered data to substantiate Dr. Long's priority rights as the discoverer of the anesthetic properties of sulphuric ether, and many interested their fel-

low citizens in sponsoring the movement which culminated in the erection at Danielsville, by the State of Georgia, of another statue in honor of this physician's contribution to mankind. For several years the Crawford W. Long Lecture at the University of Georgia on March 30, the anniversary of Dr. Long's discovery and now known as Crawford Long Day, has attracted an unusual gathering of people. The Association plans to continue this event and, in addition, now offers a prize to the undergraduate student of the University whose paper meets the following requirements, which are quoted from a letter written to THE MEDICAL ASSOCIATION OF GEORGIA by Dr. Frank K. Boland, president of the Crawford W. Long Memorial Association:

"The Crawford W. Long Memorial Association this year offers a cash prize of \$25.00 to the undergraduate student of the University of Georgia submitting the best paper on the subject, 'Why I Wish to Be a Doctor.' The limits of the paper are between 1,000 and 1,500 words. A group of three judges who are residents of Athens will be selected to make the award, which will come March 30, the anniversary of Crawford Long's discovery of anesthesia. The prize will be presented at the memorial exercises which take place in the chapel every year on that day.

"It is hoped that this award will be an annual affair, the subject being changed from year to year. There are a good many students at the University who are taking the premedical course and naturally these will be the ones most interested in such a contest. It is hoped that THE JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA can publish the winning paper.

"This award by the Crawford W. Long Memorial Association is made as a stimulus to young men who are contemplating the study of medicine, but also is made as a means of perpetuating the name of Crawford Long and helping to establish his priority in this great discovery. It seems difficult to impress upon the present generation the fact that Dr. Long did make this discovery, so we are trying to sell the idea to the next generation. Papers, magazines, etc., even two published in the State of Georgia, continue to give Morton credit for the discovery."

The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.

The next annual session of the MEDICAL ASSOCIATION OF GEORGIA will be held at the Forest Hills Hotel, Augusta, April 26, 27, 28, 29, 1938. The House of Delegates will meet at 2:00 P. M. on April 26th in hall adjacent to registration desk.

GEORGIA DEPARTMENT OF PUBLIC HEALTH

T. F. ABERCROMBIE, M.D., *Director*FACTS ABOUT TUBERCULOSIS
IN GEORGIA

More than half of the people in this State are infected with tubercle bacilli. This is a fair assumption reached after tuberculin testing the student bodies of the larger colleges in Georgia; from 40 to 69 per cent were found to be reactors and therefore proved to have been infected. Smaller industrial groups that have been tested have shown larger percentages of reactors. It may be said, then, that tuberculosis is one of the most widespread infections that we have. Neither is there any reason to doubt that it accounts for many of the otherwise unexplainable illnesses we see in people of almost all ages, for first infections and their consequent systemic reactions, whether mild or severe, may occur at any age.

In the past four years there have been more than 1,700 deaths annually from this disease. It ranks eighth as a cause of death in this State, but it is the first cause of death in the 15 to 45 year age group which is the most important period of life from a biologic and economic standpoint. The Georgia death rate in 1936 per 100,000 population was 56, while that for the United States was 55. Nearly two-thirds of the deaths in Georgia were in the colored race. Statistics show that in the United States the death rate in the labor group is 184. We may conclude that we have a similar situation and therefore a need for concentrated effort to control tuberculosis in both of these groups is apparent.

Following is a comparison of the rate of decline of the death rate in Georgia and the United States:

In Georgia 1922 to 1931, 20 per cent; in the United States 30 per cent.

In Georgia 1931 to 1935, 24 per cent; in the United States 19 per cent.

The more rapid decline of the death rate in Georgia since 1931 may be justly attributed to a better than average intensified tuberculosis control service. However gratifying the reduction in the death rate has been, we must not lose sight of the fact that the reduction rate is slowing up and that in many states (28) the death rate actually increased in 1936. That a more vigorous attack of the problem to stop the spread of infection is necessary is distinctly obvious.

Basing the estimate on the general acceptance that we have five active cases, three of them communicable, for each annual death, there are over 8,500 active and 5,000 communicable cases of tuberculosis in Georgia. As the latter are not controlled and isolated

either by law or adequate sanatorium facilities it is not surprising that our citizens have less than an even chance to escape infection. The wonder is that any fail to become infected.

There are approximately 700 public beds in Georgia for tuberculosis. The State has 334 beds, only 250 of which can be in operation effectively because an appropriation already too low was still further reduced by law. Two hundred fifty-five beds are located in Atlanta at Battle Hill Sanatorium and are available only to residents of Fulton County and Atlanta. In spite of these beds, all of which are believed to be in operation, Fulton County has more applicants to the State Sanatorium than any other county. The remainder of the 700 beds are also in county sanatoriums which are unable with them to successfully cope with their local tuberculosis problems. One hundred fifteen of the beds at Alto and a considerable number at Battle Hill are reserved for children and, up to the present time, have served chiefly as preventorium and, therefore, they have been of comparatively little benefit in the control of tuberculosis as the attack on tuberculosis, it is becoming more and more recognized, should be in the treatment and isolation of communicable cases and in the early recognition and treatment of early cases that they may not become communicable. The maintenance of cases of so-called childhood tuberculosis does not accomplish this end.

Practically speaking, then, there are only about 600 beds for persons with the adult type of pulmonary tuberculosis. One public bed for each annual death from this disease may be accepted as a minimum requirement to a control program for tuberculosis. Since we have in Georgia over 1,700 deaths annually it may be definitely and emphatically stated that we require at the very least 1,000 additional sanatorium beds.

The State Planning Board very wisely concluded that a so-called minimum is insufficient and advised that 1,400 additional beds be provided. That the best service might be rendered it was advised that 7 sanatoriums of 200 beds each be located in or near convenient medical centers. It was pointed out that better and cheaper operation of institutions so placed would be afforded by taking advantage of the local medical and surgical services which would be available, that the institutions would be more accessible to patients and that they would lend themselves easily to the various purposes for which they

should be used, namely, surgical treatment, bed care, rehabilitation or hardening of arrested cases and for the custodial or domiciliary care of indigent or semi-indigent incurable cases. The possibility of including vocational training and job placement through special arrangement.

Present Control Program

As may be gathered from the foregoing, the short-sighted policy of not providing sufficient sanatorium beds is preventing a satisfactory control of tuberculosis. However, the State Board of Health, with the expressed approval of the physicians of Georgia and aided by other agencies, established in 1930 a Division of Tuberculosis Control. Its purpose was, and is, to aid in the discovery of tuberculosis through x-ray and other study of contacts, suspects and tuberculin positive individuals, and to arrange for the care of the cases found. With the present paucity of sanatorium beds thousands of patients could hope for nothing unless they could be established on "cure" in their homes under the supervision of the family physician. It must never be forgotten that rest in bed twenty-four hours a day as long as may be necessary is still the cure for tuberculosis.

The service of this division has been built up so that now it reaches almost every county in the State. Clinics are organized and the follow-up is performed in 35 counties by health commissioners and their county health nurses; in 17 counties by public health nurses employed by the counties; in 18 counties by 18 district advisory nurses employed by the State Health Department and in the remainder of the counties by 9 district tuberculosis nurses that are also employed by the State. Through these agencies, the physicians of the State, the county welfare departments aided by state and social security allotments, the Georgia Tuberculosis Association which assists materially in paying fees for special treatment and x-rays and for other needs, and other agencies, an attempt is made to have provided reasonably good home care for every patient who requires such aid.

State Tuberculosis Sanatorium

Aware of the fact that the all too few beds at Alto could be of little use in the treatment or control of tuberculosis if they were to be used for patients requiring bed care only, the policy of admitting patients in the order of their applications as they are found suitable for admission because of the advisability of some form of lung compression was adopted. Under this policy patients are allowed to remain but a short time, being returned to their homes after the operation to continue the necessary rest in bed there, or, in the case of pneumothorax having been established, to receive the refills from some physician near at home who has qualified himself to perform

it. More than 140 physicians scattered all over the State are able to offer this service. This policy and program has brought about a much larger patient turnover at Alto and a consequent benefit to a great many patients who never otherwise could have secured it and it also has resulted in there having been obtained similar services from the physicians referred to above for many patients which made it unnecessary for them to go to Alto for such treatment.

Conclusion

The present tuberculosis control program in Georgia is far reaching and should result in material gain, but it should be remembered that it is a result of the necessity of doing the best we can without the means to do better and that the need for all of the 1,400 beds which the Planning Board advised to be built was never more clearly shown than now.

H. C. SCHENCK, M.D.,

Chief, Division of Tuberculosis Control.

INTERNATIONAL COLLEGE OF SURGEONS SECTIONAL MEETING

ALABAMA, FLORIDA, GEORGIA, LOUISIANA AND
MISSISSIPPI

TAMPA MUNICIPAL HOSPITAL

TAMPA, FLORIDA

February 28, 1938

PROGRAM

Names and addresses of speakers with titles of addresses and papers follow:

Andre Crotti, M.D., Columbus, Ohio, "Some of the Newer Aspects of Endocrines."

Max Thorek, M.D., Chicago, "Electrosurgical Obliteration of the Gallbladder—Lantern Slides and Motion Pictures."

Charles H. Arnold, M.D., Lincoln, Nebraska, "Splanchnic Anesthesia."

Edgar F. Fincher, M.D., Atlanta, "Sciatica Resulting from Displacement of the Intervertebral Cartilage."

Oscar B. Nugent, Chicago, "Surgical Management of Cataract."

Gilbert Franklin Douglas, M.D., Birmingham, Alabama, "Study of Uterine Bleeders, Endometrial Biopsies."

William Jepson, M.D., Sioux City, Iowa, "Future of Surgery and How We May Improve It."

George Van Ingen Brown, M.D., Milwaukee, Wis., "Plastic Surgery."

Hugh Young, M.D., Baltimore, Maryland, subject to be announced.

Chevalier Jackson, M.D., Philadelphia, Pa., subject to be announced.

Edward Frankel, M.D., New York City, subject to be announced.

Moses Behrend, M.D., Philadelphia, Pa., subject to be announced.

Luncheon will be served by the Tampa Municipal Hospital.

WOMAN'S AUXILIARY

OFFICERS 1937-1938

President—Mrs. Ralph H. Chaney, Forrest Hills, Augusta.

President-Elect—Mrs. Warren A. Coleman, Eastman.

First Vice-President—Mrs. H. G. Banister, Ila.

Second Vice-President—Mrs. J. Lon King, 223 Buford Place, Macon.

Treasurer—Mrs. W. A. Selman, 760 Penn Avenue, N. E., Atlanta.

Third Vice-President—Mrs. R. S. O'Neal, La-Grange.

Recording Secretary—Mrs. Cleveland Thompson, Millen.

Corresponding Secretary—Mrs. W. E. Matthews, Jr., 2804 Lombardy Center, Augusta.

Historian—Mrs. Clem Brannen, Moultrie.

DOCTORS' DAY

The Medical Auxiliaries of Georgia are planning a larger celebration of Doctors' Day this year than ever before. In addition to the usual observance, there will be a radio barrage. There will be a tribute paid to the MEDICAL ASSOCIATION OF GEORGIA over every radio station in the state. And it is indeed fitting that we should honor the men who through their struggles have changed our destinies and shaped our civilization in their defense of human living and to remind ourselves that we have joys in living today which former generations did not have and that they are due to the unselfish and unwearied labors of the medical profession through the years.

As a eulogy to the MEDICAL ASSOCIATION OF GEORGIA, Robert Louis Stevenson's "Dedicated to the Physician" follows:

"There are men and classes of men that stand about the common herd, the soldier, the sailor, and the shepherd, not infrequently; the artist, rarely; less often the clergymen; the physician almost as a rule. He is the flower of our civilization and when that stage of man is done with and only remembered to be marveled at in history, he will be thought to have as little as any in the defects of the period and most notably exhibited the virtues of the race. Generosity he has, such as is possible to those who practice an art, never to those who drive a trade; discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and, what are more important, Herculean cheerfulness and courage. So it is that he brings air and cheer into the sick room, and often enough, though he not so often as he wishes, brings healing."

MRS. ERNEST R. HARRIS, *Chairman Doctors' Day Program.*

SIXTH DISTRICT

Mrs. W. W. Chrisman, of Macon, was installed as president of the Woman's Auxiliary to the Sixth District Medical Society at the recent meeting in Macon and Mrs. Y. H. Yarbrough, of Milledgeville, was named president-elect, to take office in 1939. Mrs. Chrisman succeeds Mrs. J. L. King, of Macon.

Mrs. Fred Rawlings, of Sandersville, was installed secretary-treasurer; and Mrs. W. E. Beddingfield, of Rentz, parliamentarian. Dr. Charles Richardson, of Macon, addressed the meeting on state medicine and Miss Laverne Baird, soloist, and Miss Christine Lewis, accompanist, both students at Wesleyan Conservatory, gave a musical program.

HEALTH PROGRAM

The Woman's Auxiliary to the Fulton County Medical Society sponsored a health program, presented by the society, at the Academy of Medicine on January 11. Dr. C. C. Aven, president of the society; Dr. C. W. Roberts and Dr. R. H. Oppenheimer discussed medical economics and answered questions in an open forum. Many representatives of P.-T. A. groups and of women's clubs attended the program, of which Mrs. O. H. Matthews was chairman for the Auxiliary.

DOOLY COUNTY

The Dooly County Medical Society and the Woman's Auxiliary met recently at the home of Dr. and Mrs. V. L. Harris with Mrs. J. L. Lee and Dr. and Mrs. A. P. Evans co-hosts. Mrs. E. B. Davis, of Byromville, was elected president of the Auxiliary to fill the vacancy created by the resignation of Mrs. M. L. Malloy, of Vienna. The objectives of the Auxiliary for the year are the Student Loan Fund, of which Mrs. V. L. Harris was appointed chairman; and the placing of Hygeia in as many homes as possible and in all school libraries, with Mrs. Kitchens as chairman.

RICHMOND COUNTY

Dr. George A. Traylor, president of the MEDICAL ASSOCIATION OF GEORGIA, spoke at the recent meeting of the Richmond County Medical Auxiliary on "Duties of a Member of the Auxiliary." Reports of the card party sponsored recently were given. It was voted to send \$50 to the Student Loan Fund and \$5 to the Iron Lung Fund in Augusta. Members decided to offer a \$5 prize to the boy or girl of the county selling the most subscriptions to Hygeia. The meeting was held at the home of Mrs. Robert Greenblatt and was followed by tea.

BIBB COUNTY

Dr. J. D. Applewhite appealed to members of the Bibb County Auxiliary to change their plans and use funds they had set aside for a tuberculosis cottage, which was to have been named in his honor, toward establishing a pre-natal and post-natal clinic at the Macon Hospital. He made this plea at a meeting held at the home of Mrs. J. A. Fountain and stressed the fine work carried on at the well-baby clinic which was equipped by the Auxiliary 10 years ago. After being impressed with the need of the pre-natal and post-natal clinic, members voted to use their funds for this purpose. Mrs. J. L. King spoke on the work of the Public Relations Bureau of the MEDICAL ASSOCIATION OF GEORGIA and Mrs. C. C. Harrold, former president of the State Auxiliary, was welcomed back after a long illness. Tea was served after the meeting.

GEORGIA MEDICAL SOCIETY

Dr. William H. Myers gave an interesting talk on the Basic Science Law at the recent meeting of the Auxiliary to the Georgia Medical Society, held at the new home of Mrs. G. H. Lang in Savannah. Mrs. G. Hugo Johnson was co-hostess. The Auxiliary voted to place copies of Hygeia in the reading rooms of libraries in the public schools. Mrs. A. A. Morrison, health film chairman, reported that films had been shown in 5 elementary schools. Mrs. Lester Neville was appointed chairman of the committee for observance of Doctors' Day. Members were urged to attend a talk to be given by Dr. Ross Brown on the control of venereal diseases.

At a meeting presided over by Mrs. L. A. DeLoach a group of interested women heard talks on cancer control by Dr. Scherechewsky, of the state department of public health, and by Mrs. H. B. Ritchie, the state commander of the woman's field army of the American Society for the Control of Cancer. After the talks, a resolution was introduced by Mrs. William R. Dancy, former president of the Woman's Auxiliary to the MEDICAL ASSOCIATION OF GEORGIA, to the effect that the group assembled offer their services and hearty co-operation to that body in support of cancer control clinics.

Although the incidence of primary malignant tumors of the urogenital tract in the young is comparatively low, the extremely high mortality induced by these lesions makes them a problem of grave clinical concern. MEREDITH F. CAMPBELL, New York (*Journal A. M. A.*, Nov. 13, 1937), believes that the only prospect for lessening the extremely high mortality of these lesions lies in (1) earlier diagnosis by urography, aspiration biopsy or hormone tests (Aschheim-Zondek), as indicated in a particular case, together with (2) intensive preoperative and postoperative radiation therapy by the fractional dose method (Coutard). The

data that he presents are based on the clinical and/or pathologic study in seventy-seven cases of primary malignant urologic disease in infants and children between the ages of 3 days and 9 years. The diagnosis, treatment and prognosis of tumors in the following sites are discussed: kidney, bladder, penis, urethra, adrenal, testicle and prostate.

COUNTIES REPORTING FOR 1938

Butts County Medical Society

The Butts County Medical Society announces the following officers for 1938:

President—B. F. Akin, Jackson.

Secretary-Treasurer—R. L. Hammond, Jackson.

Tri-County Medical Society

(Calhoun, Early and Miller Counties)

The Tri-County Medical Society announces the following officers for 1938:

President—W. O. Shepard, Bluffton.

Vice-President—J. S. Beard, Edison.

Secretary-Treasurer—W. H. Wall, Blakely.

Delegate—J. G. Standifer, Blakely.

Alternate Delegate—W. H. Wall, Blakely.

Board of Censors—E. B. Baughn, Colquitt; W. O. Shepard, Bluffton; G. O. Gunter, Blakely.

Committee on Public Health—C. K. Sharp, Arling-ton; W. C. Hays, Colquitt; C. W. Twitty, Newton; C. R. Barksdale, Blakely.

Burke County Medical Society

The Burke County Medical Society announces the following officers for 1938:

President—E. A. Barger, Waynesboro.

Vice-President—W. C. McCarver, Vidette.

Secretary-Treasurer—Abe J. Davis, Waynesboro.

Delegate—W. R. Lowe, Midville.

Alternate Delegate—H. F. Bent, Midville.

Cobb County Medical Society

The Cobb County Medical Society announces the following officers for 1938:

President—H. B. Terry, Acworth.

Vice-President—J. E. Lester, Marietta.

Secretary-Treasurer—A. H. Fowler, Marietta.

Delegate—W. C. Mitchell, Smyrna.

Alternate Delegate—W. M. Gober, Marietta.

Censors—W. M. Gober, A. H. Fowler and G. F. Hagood.

Clayton-Fayette Counties Medical Society

The Clayton-Fayette Counties Medical Society announce the following officers for 1938:

President—J. R. Wallis, Lovejoy.

Vice-President—E. C. Seawright, Fayetteville.

Secretary-Treasurer—T. J. Busey, Fayetteville.

Delegate—J. R. Wallis, Lovejoy.

Emanuel County Medical Society

The Emanuel County Medical Society announces the following officers for 1938:

President—S. S. Youmans, Oak Park.

Vice-President—R. G. Brown, Graymont.

Secretary-Treasurer—R. C. Franklin, Swainsboro.

Delegate—J. H. Chandler, Swainsboro.

Alternate Delegate—R. C. Franklin, Swainsboro.

Censors—D. D. Smith, J. H. Chandler and R. C. Franklin.

Terrell County Medical Society

The Terrell County Medical Society announces the following officers for 1938:

President—Guy Chappell, Dawson.
Vice-President—J. C. Tidmore, Dawson.
Secretary-Treasurer—Steve P. Kenyon, Dawson.
Delegate—Steve P. Kenyon, Dawson.
Alternate Delegate—J. T. Arnold, Parrott.

Whitfield County Medical Society

The Whitfield County Medical Society announces the following officers for 1938:

President—J. H. Steed, Dalton.
Vice-President—G. L. Broadrick, Dalton.
Secretary-Treasurer—H. J. Ault, Dalton.
Delegate—Leo G. Temple, Dalton.
Censors—G. L. Broadrick, J. C. Rollins and H. L. Sams.

Taylor County Medical Society

The Taylor County Medical Society announces the following officers for 1938:

President—S. H. Bryan, Reynolds.
Vice-President—F. H. Sams, Reynolds.
Secretary-Treasurer—R. C. Montgomery, Butler.
Delegate—F. H. Sams, Reynolds.

Tattnall County Medical Society

The Tattnall County Medical Society announces the following officers for 1938:

President—A. C. Branch, Glennville.
Vice-President—L. R. Jelks, Reidsville.
Secretary-Treasurer—J. M. Hughes, Glennville.
Delegate—L. V. Strickland, Cobbtown.
Alternate Delegate—A. C. Branch, Glennville.
Censors—J. C. Collins, G. W. Tootle and R. B. Kicklighter.

Troup County Medical Society

The Troup County Medical Society announces the following officers for 1938:

President—S. C. Rutland, LaGrange.
Vice-President—D. E. Morgan, LaGrange.
Secretary-Treasurer—Kenneth D. Grace, LaGrange.
Delegate—R. S. O'Neal, LaGrange.
Alternate Delegate—Douglas Barber, LaGrange.
Censors—C. O. Williams, R. M. Avery and W. H. Hadaway.

City-County Hospital Board—R. S. O'Neal, W. P. Phillips and F. J. Amis.

Hart County Medical Society

The Hart County Medical Society announces the following officers for 1938:

President—A. O. Meredith, Hartwell.
Vice-President—H. E. Teasley, Hartwell.
Secretary-Treasurer—G. T. Harper, Dewy Rose.
Delegate—W. E. McCurry, Hartwell.

Thomas County Medical Society

The Thomas County Medical Society announces the following officers for 1938:

President—Roy A. Hill, Thomasville.
Vice-President—T. A. Futch, Jr., Thomasville.
Secretary-Treasurer—Rudolph Bell, Thomasville.

Glynn County Medical Society

The Glynn County Medical Society announces the following officers for 1938:

President—M. E. Winchester, Brunswick.
Vice-President—Webb Conn, Brunswick.
Secretary-Treasurer—T. V. Willis, Brunswick.

Hall County Medical Society

The Hall County Medical Society announces the following officers for 1938:

President—E. L. Ward, New Holland.
Vice-President—W. D. Cagle, Gainesville.
Secretary-Treasurer—Hartwell Joiner, Gainesville.
Delegate—W. R. Garner, Gainesville.
Alternate Delegate—E. W. Grove, Gainesville.
Censors—J. K. Burns, B. B. Davis and Hartwell Joiner.

Habersham County Medical Society

The Habersham County Medical Society announces the following officers for 1938:

President—D. T. Rankin, Alto.
Vice-President—C. T. Hardman, Tallulah Falls.
Secretary-Treasurer—B. J. Roberts, Cornelia.
Delegate—W. H. Garrison, Clarksville.
Alternate Delegate—B. J. Roberts, Cornelia.
Censors—E. H. Lamb, R. B. Lamb and F. C. Whelchel.

Baldwin County Medical Society

The Baldwin County Medical Society announces the following officers for 1938:

President—G. K. Cornwell, Milledgeville.
Vice-President—L. A. Bailey, Milledgeville.
Secretary-Treasurer—J. R. S. Mays, Milledgeville.
Delegate—Howard Cary, Milledgeville.
Alternate Delegate—T. C. Clodfelter, Eatonton.
Censors—G. L. Echols, R. W. Bradford and H. D. Allen, Jr.

Sumter County Medical Society

The Sumter County Medical Society announces the following officers for 1938:

President—W. F. Castellow, Americus.
Vice-President—J. W. Chambliss, Americus.
Secretary-Treasurer—Marion W. Hester, Americus.
Delegate—L. Stout Boyette, Ellaville.
Alternate Delegate—R. C. Pendergrass, Americus.

Chattooga County Medical Society

The Chattooga County Medical Society announces the following officers for 1938:

President—R. E. Talley, Trion.
Vice-President—H. D. Brown, Summerville.
Secretary-Treasurer—Inman Smith, Trion.
Delegate—J. L. Bennett, Trion.
Alternate Delegate—J. J. Rodgers, Trion.

NEWS ITEMS

THE RANDOLPH COUNTY MEDICAL SOCIETY met at the Patterson Hospital, Cuthbert, on January 6th. Dr. L. R. Massengale, Lumpkin, read a scientific paper.

DR. WADLEY R. GLENN announces the opening of offices in Suite 307 Doctors' Building, 478 Peachtree Street, N. E., Atlanta. Practice limited to surgery.

THE GEORGIA MEDICAL SOCIETY, Savannah, met on January 11th. Dr. M. J. Epting read a paper entitled *Transference of Skin by Means of Tube Pedicles*; discussion led by Dr. L. M. Freedman and Dr. T. A. Peterson. Dr. C. F. Holton reported a case, *Bilateral Polycystic Kidneys*.

DR. JNO. J. PILCHER, Wrens, entertained the members of the Jefferson County Medical Society at his clubhouse recently.

DR. JOHN L. DOROUGH, Monroe, has been appointed health commissioner of the Walton County health unit.

DR. DAN C. ELKIN, Atlanta, was elected president of the Emory University Hospital staff at the annual meeting on January 3rd; Dr. M. K. Bailey, vice-president; Dr. Homer H. Allen, Decatur, re-elected secretary-treasurer.

DR. V. P. SYDENSTRICKER, Augusta, spoke on *Tuberculosis* at the annual meeting of the Augusta Tuberculosis Association held on January 7th.

DR. C. C. AVEN and DR. C. W. ROBERTS, both of Atlanta, spoke on *Health Education* at a meeting held at the Academy of Medicine, Atlanta, on January 11th. The meeting was sponsored by the Woman's Auxiliary to the Fulton County Medical Society.

DR. B. T. BEASLEY, Atlanta, and DR. HOMER H. ALLEN, Decatur, spoke at the DeKalb County courthouse at a meeting of the P.-T. A. on January 5th.

DR. C. B. LORD, Jefferson, spoke on *Dysmenorrhea* at a meeting of the Jackson-Barrow Counties Medical Society held at the Harrison Hotel, Jefferson, on January 3rd.

DR. C. C. AVEN, Atlanta, spoke at a meeting of the public health nurses at the Atlanta Tuberculosis Association on January 10th.

DR. KENNETH MCCULLOUGH and DR. LEO. SMITH, both of Waycross, entertained members of the Ware County Medical Society at the Phoenix Hotel, Waycross, on January 5th. Dr. Albert Fleming and Jas. L. Sawyer, both of Folkston, entertained members of the Society at a shad supper in Folkston at the February meeting.

THE STAFF MEETING of Grady Hospital, Atlanta, was held on January 11th. Reports of cases on the program were: *Polyposis* by Dr. C. H. Paine, Dr. Marion C. Pruitt and Dr. N. W. Holman; *Hydatiform Mole*, Dr. S. D. Gausemel, Dr. W. B. Matthews and Dr. J. E. Nix; *Ruptured Nucleus Pulposus*, Dr. Exum Walker and Dr. Wm. Smith.

THE STAFF MEETING of Crawford W. Long Memorial Hospital, Atlanta, was held on January 13th. The program consisted of reports of committees, election of officers and discussion of mortalities.

THE FOREST HILLS HOTEL, Augusta, in its own 600 acre park, is five miles from the center of Augusta. It is situated on a hill and it commands from its windows, piazzas and terraces, magnificent views of the surrounding scenery. Within the Forest Hills Hotel is every comfort, convenience and luxury. Every bedroom is an outside room with its own private bath; every corner suite has its sun parlor. Telegraph office, barber and beauty parlors and a variety of shops and recreational rooms add to the general comfort. Every room in the Forest Hills Hotel is fireproof. The Hotel is the newest in Augusta.

ITEMS ON THE MENU for lunch at the Forest Hills Hotel, Augusta. January 7th: Imported sardines, chilled tomato juice, grapefruit juice, New England clam chowder, consomme in cup, sweet pickles, stuffed olives, India relish, radishes, broiled Spanish mackerel, maitre D'Hotel; Boston salt codfish cake, tomato sauce; sliced cucumbers, Saratoga chip potato, stuffed green peppers, duxelles; sherry sauce, calf's liver saute with smothered onions, chicken legs en casserole, Hunter style; cold baby lobster, mayonnaise; eggs or omelet any style, peanut and jelly sandwich. TO ORDER: broiled century beef steak, roast shoulder of lamb, mint jelly, browned potatoes, parsley potatoes, buttered spinach, stewed fresh green corn, corn meal mush with milk.

THE GEORGIA MEDICAL SOCIETY, Savannah, met on January 25th. Dr. Albert J. Kelley read a paper entitled, *Chronic Infections of the Female Urethra*; discussed by Dr. L. W. Shaw and Dr. H. Y. Righton. Dr. J. W. Schereschewsky discussed the *Establishment of a Cancer Clinic*.

THE HALL COUNTY COMMISSIONER OF HEALTH in his annual report states that 5,124 citizens of Hall County were inoculated (in 1937) against communicable diseases, 236 people received treatment for venereal diseases, 132 were given medical service for tuberculosis, and the personnel of the Health Department traveled 41,031 miles caring for the health of the people of the county."

DR. CARL S. PITTMAN and DR. ROBERT H. HARALSON, both of Tifton, were speakers at a luncheon of the Tifton Rotarians on January 12th.

DR. O. W. ROBERTS, Carrollton, spoke at West Georgia College on January 13th before a meeting of the Mu Zeta Alpha Honorary Scientific Society on *Medical Progress*. He described conditions which confronted the rural physician fifty years ago, then outlined the advantages which might be obtained under provisions of the Ellis Health Law.

DR. OLIN S. COFER was elected president of the Georgia Baptist Hospital (Atlanta) staff at its annual banquet on January 18th; Dr. S. T. Brown, first vice-president; Dr. T. P. Goodwyn, second vice-president; Dr. Geo. W. Fuller, second vice-president.

DR. H. C. SCHENCK, Georgia Department of Public Health, Atlanta, spoke before the annual meeting of the Savannah Health Center at the Y.W.C.A., Savannah, January 17th on *Control of Tuberculosis in Savannah*.

DR. H. H. MCGEE, Savannah, was elected third vice-president of the Chatham-Savannah Tuberculosis Association at its annual meeting held on January 13th; Dr. J. L. Elliott, medical director.

DR. J. H. BUTLER was re-elected president of the Doctors and Dentists Bureau, Augusta, at the annual banquet held at the Partridge Inn on January 11th. Dr. S. J. Lewis was elected to the Board of Directors; Dr. L. P. Holmes, secretary-treasurer.

DR. C. C. AVEN, Atlanta, spoke before a meeting of the Clarke County Woman's Auxiliary in Athens, January 14 on *State Medicine*.

THE MACON MEDICAL SOCIETY OF BIBB COUNTY held its bi-monthly meeting at Ridley Hall, Macon, January 18th. Dr. Paul S. Kemp read a paper entitled, *Congenital Heart Diseases*.

DR. CHAS. J. WOODS, formerly of Tulsa, Oklahoma, moved recently to Macon and opened offices in the Georgia Casualty Building. His practice will be limited to dermatology and use of radium.

THE ADAMS HOSPITAL at Cordele, recently built by Dr. and Mrs. Charles Adams, was formally opened on January 16th. The Wiregrass Farmer, Ashburn, estimated the number of people who visited and inspected the Hospital on that date at 4,000.

DR. H. L. BARKER, Carrollton, has been appointed on an Advisory, Planning and Publicity Committee in an anti-malaria campaign being sponsored in Carrollton and Carroll county.

DR. A. C. SHAMBLIN, Cartersville, Bartow County Commissioner of Health, in his annual report stated that in addition to many other activities he made 219 talks to adults and children; held 1,936 personal conferences; vaccinated 260 against smallpox; 2,538 against typhoid fever; examined 3,146 children; made 776 inspections for sanitation. Also that the death rate from tuberculosis had been reduced 50 per cent in the last five years, typhoid fever reduced more than 75 per cent.

DR. J. E. LESTER, Marietta, Cobb County Commissioner of Health, announces additional activities in the control of tuberculosis in Cobb county and that artificial pneumothorax will be given in the future to patients when this procedure is necessary.

THE SPALDING COUNTY MEDICAL SOCIETY met at the Strickland & Son Memorial Hospital, Griffin, on January 18th. Dr. Roger W. Dickson, Atlanta, read a paper entitled, *Normal Care of the Infant Baby*.

DR. JAMES R. MCCORD, Atlanta, Professor of Obstetrics and Gynecology, Emory University School of Medicine, spoke on *Some Aims and Methods of the Undergraduate Teaching of Obstetrics* at the Thirty-fourth Annual Congress on Medical Education and Licensure held at the Palmer House, Chicago, February 14 and 15. Other prominent speakers on the program were: Dr. Ray Lyman Wilbur, Stanford University, Cal.; Atty. John K. Clark, New York City; Dr. A. M. Schwitalla, St. Louis, Mo.; Dr. W. C. Rappleye, New York City; Dr. Walter M. Kotschnig, Northampton, Mass.; Dr. B. O. Raulston, Los Angeles, Cal.; Dr. J. G. Fitzgerald, Toronto, Canada; Dr. Salvatore P. Lucia, San Francisco, Cal.; Dr. Irvin Abell, Louisville, Ky.; Dr. J. H. Musser, New Orleans, La.; Dr. James D. Bruce, Ann Arbor, Mich.; Dr. Lester J. Evans, New York City; Dr. Arthur C. Bachmeyer, Chicago, Ill.; Dr. Winford Smith, Baltimore, Md.; Dr. F. A. Washburn, Boston, Mrss.; Dr. I. D. Metzger, Pittsburgh, Pa.; Dr. Wm. C. MacTavish, New York City; Dr. Chas. B. Pinkham, Sacramento, Cal.; Dr. Wilburt C. Davison, Durham, N. C.; Dr. James N. Baker, Montgomery, Ala.; Dr. Roy B. Harrison, New Orleans, La.; Dr. Thomas J. Crowe, Dallas, Texas; Dr. Wm. C.

Woodward, Chicago, Ill.; Dr. Julian F. DuBois, St. Paul, Minn.; Dr. Harold Rypins, Albany, N. Y.

DR. ALBERT FLEMING and DR. JAS. L. SAWYER, both of Folkston, entertained the members of the Ware County Medical Society at their annual shad dinner on February 2nd.

DR. LOUIS HOLTZ, formerly with Company 4488, C.C.C. at Ashland, Ala., has moved to Jonesboro where he will do general practice. He has been appointed local surgeon for the Southern Railway.

THE FOURTH DISTRICT MEDICAL SOCIETY met at the Elk's Club House, Griffin, on February 9th. Titles of papers on the scientific program were: *Diagnosis of Tuberculosis*, by Dr. Geo. L. Walker, Griffin; *The Non-Surgical Treatment of Genito-Urinary Infection*, Dr. Wallace Bazemore, Macon; *The Indications for Injection and Operative Treatment of Hemorrhoids*, Dr. Geo. F. Eubanks, Atlanta; *The Cause of Pain in Back*, Dr. Thos. P. Goodwyn, Atlanta; *No Title Submitted*, Dr. Edgar D. Shanks, Atlanta; *Report and Presentation of Cases* by members.

DR. HOWARD HAILEY and DR. HUGH HAILEY announce the removal of their office to Suite 107 (ground floor) Doctors' Building, 478 Peachtree Street, N. E., Atlanta. Their practice will be limited to dermatology and syphilology and the use of radium.

DR. AND MRS. F. S. ROGERS, Coleman, entertained the members of the Randolph County Medical Society in their home at dinner on February 3rd.

DR. STEWART D. BROWN, Royston, spoke before a meeting of the Hartwell Rotary Club, January 27th, on *Socialized Medicine*.

THE WILCOX COUNTY MEDICAL SOCIETY met recently at Pineview. Dr. Homer A. Dorsey, Pitts, read a scientific paper entitled, *Minor Operations*.

DR. J. M. BARNETT, Albany, spoke before a meeting of the Albany Kiwanis Club, January 26th, on *Infantile Paralysis*.

DR. GUY G. LUNSFORD, Atlanta, director of county health work, spoke at a meeting of the Cartersville Lions Club on January 18th. He made a report of the health work being carried out over the State.

DR. JOHN W. TURNER, Atlanta, was installed as president of the medical staff of St. Joseph's Infirmary on January 24th; Dr. W. L. Champion, president-elect; Dr. B. McH. Cline, vice-president; Dr. Troy Bivings, Jr., secretary-treasurer. Dr. Hugh Hailey returned recently from a tour and study in the clinics of Europe and gave a report on his observation. Dr. Wm. Perrin Nicolson made report of cases.

DR. AND MRS. B. J. ROBERTS, Cornelia, entertained members of the Habersham County Medical Society and Auxiliary at dinner on January 13th at the Commercial Hotel.

DR. HORACE DARDEN, Sparta, celebrated his eightieth birthday on January 17th. He is active and takes care of an extensive practice. Dr. Durden is one of the most prominent citizens of Sparta and Hancock county.

THE STAFF MEETING of Emory University Hospital, Atlanta, was held on February 3rd. Dr. A. E. Hauck reported two cases, *Hernia Reduced En Masse*, discussed by Dr. Lon Grove; Dr. Carl Garver, *Scalenus Anticus Syndrome*, discussed by Dr. Edgar Fincher; Dr. Stewart R. Roberts, *Embolus-Bifurcation of Abdominal Aorta*.

THE STAFF MEETING of Grady Hospital, Atlanta, was held on February 8th. Dr. Avery M. Dimmock and Dr. W. B. Matthews reported on a *Follow-Up Study in a Case Showing Splenomegaly and Lymphadenopathy*; Dr. Roy Kracke and Dr. R. Stegall reported a case, *More About Sulfanilamide with a Case Study*.

DR. AND MRS. JAMES EDGAR PAULLIN, Atlanta, entertained at a dinner party in their home on February 7th in honor of Dr. and Mrs. Roger B. Lee of Brookline, Mass., and Dr. and Mrs. James S. McLester of Birmingham, Ala. Dr. and Mrs. William R. Minnich assisted their parents in entertaining. Other guests included Mr. and Mrs. Vaughn Nixon, Dr. and Mrs. Frank K. Boland, Dr. and Mrs. Floyd McRae, Mr. and Mrs. June Oglesby, Mr. and Mrs. Frank Neely, Mr. and Mrs. Albert Thornton, Dr. and Mrs. Glenville Giddings, Dr. and Mrs. William F. Shallenberger, Mrs. Richard Johnstone, Mrs. Thos. P. Hinman, and Mr. John Wade of Athens.

DR. JACK C. NORRIS, Atlanta, Associate Professor of Pathology and Public Health at Emory University School of Medicine, spoke before a meeting of the Metropolitan Certified Milk Producers Association and the Certified Milk Producers Association of America in New York City on February 7th. His subject was *Maternal Nursing* and its importance to the baby's future health.

THE APPOINTMENT of the personnel of the medical staff to serve at Grady Hospital, Atlanta, for six months has been announced as follows: *Medicine*—Dr. C. C. Aven and Dr. C. W. Strickler; *Surgery*—Dr. LeRoy Childs and Dr. T. C. Davison; *Obstetrics*—Dr. Frank Eskridge and Dr. O. H. Matthews. The following compose the Medical Advisory Board: Dr. T. C. Davison, Dr. Dan C. Elkin, Dr. J. R. McCord, Dr. R. H. Oppenheimer and Dr. C. W. Strickler.

DR. ROBERT ALEXANDER SIMPSON, Washington, celebrated his seventy-ninth birthday anniversary on February 1st. He is a native of Sparta but has resided in Washington since 1872. He graduated from the University of Georgia, received another A.B. degree from the University of Virginia; graduated in medicine at Columbia University College of Physicians and Surgeons, New York City, in 1884; studied in the clinics of Berlin and Vienna.

DR. C. E. WILLS, Washington, has been appointed director of the Washington General Hospital, Washington.



J. M. SMITH, M.D., Valdosta
1875 - 1938

ville, Florida, on January 8, 1938. He was born in Montgomery County and spent his boyhood in Hawkinsville. Dr. Smith began the practice of medicine at Valdosta where he continued throughout a beautiful professional career. In addition to his success in treating diseases of the eye, ear, nose and throat, he was a successful business man, served on the board of directors of the First National Bank of Valdosta for 27 years and at the time of his death was chairman of the board and president of the First Federal Loan and Savings Association of Valdosta. His advice was sought by many business leaders and many people were benefited by his kindness and liberality. Dr. Smith was a member of the Lowndes County Medical Society, American College of Surgeons, American Medical Association, member and past president of the Medical Association of Georgia (1922-23), member and leader in the Christian church of Valdosta. Surviving him are one daughter, Mrs. R. D. Baldwin, Jacksonville, Florida; mother, Mrs. Charles Lane, Macon, and two grandchildren. Funeral services were conducted by Rev. A. B. Lipscomb, assisted by Rev. Ralph Gillam from the Christian church. Burial was in Sunset Hill cemetery.

OBITUARY

Dr. James Miller Smith, Valdosta; member; Emory University School of Medicine, Emory University, 1898; aged 62; died at a private hospital in Jackson-

DOCTOR JAMES MILLER SMITH

Dr. J. M. Smith of Valdosta died on January 8, 1938, and was buried by the side of his wife who died just one year to the day on which an operation was done for a condition which caused his death.

He was a fine citizen, an outstanding physician and a leader in the affairs of the MEDICAL ASSOCIATION OF GEORGIA. It is doubtful whether any man had lived in Valdosta who was more popular with all citizens than Dr. "Jim" Smith. He entered into all the problems which confronted his community. He was generous when his help was needed and always ready to assist in any enterprise which meant for the welfare of his friends and neighbors.

As a physician, Dr. Smith was a leader in the specialty in which he practiced for thirty years and was recognized as authority on the diseases pertaining thereto. His professional services were valued by all classes, and freely given to those who were unable to pay.

Dr. Smith was elected President of the MEDICAL ASSOCIATION OF GEORGIA in Columbus in 1922, and gave to this organization the same intelligent and resourceful leadership which characterized his life as a citizen and physician. At our meetings his advice and counsel were sought and heeded, and when controversial matters appeared, his tact, his wisdom and his generous attitude to all questions frequently meant a solution without any feeling or animosities. He was recognized as one of the most beloved physicians among us, and none can take his place in the love and esteem with which he was held by his colleagues.

B. H. MINCHEW, M.D.

Dr. Marshall Ashby Purse, Saint Simons Island; member; Southern Medical College, Atlanta, 1890; aged 72; died at the Brunswick City Hospital, Brunswick, on January 8, 1938. He was a prominent physician and made many friends among the inhabitants of St. Simons Island as well as visitors there during the several seasons of the year. Dr. Purse retired from active practice about a year ago on account of ill health. He was a member of a prominent Savannah family and a great believer in the future of the South. Surviving him are one brother, several nieces and nephews. Funeral services were conducted from Christ church by Rev. C. H. Lee. Burial was in Frederica cemetery. Members of the Glynn County Medical Society were active pallbearers.

Dr. Homer Seal McCoy, Sylvester; member; Emory University School of Medicine, Emory University, 1914; aged 55; was killed suddenly in an automobile accident on December 31, 1937. He was enroute to Moultrie on a professional call when his car collided with a truck on the highway. Dr. McCoy was a native of Georgetown, Indiana, and came with his parents when a boy to Atlanta. He enjoyed an extensive practice in Worth and adjoining counties and was held in high esteem by many acquaintances. Surviving him are his widow, his mother, Mrs. J. H. McCoy, Atlanta; two sons, John McCoy and Horace McCoy, and one daughter, Miss Gloria McCoy. Dr. Louie D. Newton and Dr. W. H. Major conducted the funeral services from Spring Hill chapel. Burial was in East View cemetery, Atlanta.

Dr. Elzie David Ford, Ray City; member; Atlanta College of Physicians and Surgeons, 1906; aged 62; died at his home after a long illness on December 25,

1937. He was a native of Worth county and practiced at Doles for 26 years, then in 1933 moved to Ray City. Dr. Ford was affable and courteous to everyone and made friends easily. He was a good enterprising citizen, and a successful practitioner. Surviving him are his widow, two daughters, Mrs. J. N. Castleberry, Poulan; Miss Lillian Ford, Ray City; two sons, E. D. Ford, Jr., Jacksonville, Fla., and Cooper Ford, Ray City. Rev. B. F. Barbee and Rev. T. W. Branch conducted the funeral services from Providence church in Worth county. Burial was in the churchyard.

Dr. Robert Bennett Cuthbert, Trenton; Hahnemann Medical College and Hospital of Philadelphia, Pennsylvania, 1895; aged 72; died at a private hospital in Chattanooga, Tenn., on December 17, 1937. He served as resident physician at the Hahnemann Hospital for a number of years before removing to Rome, Ga., then in 1918 to Trenton. Dr. Cuthbert practiced until forced to retire on account of his health. He was a member of the Odd Fellows and Seventh Day Adventist church. Surviving him are four daughters, Mrs. C. E. Gould, Savannah; Mrs. Geo. Sims, Rossville; Misses Marguerite and Florence Cuthbert, Chattanooga, Tenn.; three sons, R. B. Cuthbert, Jr., and Roswell Cuthbert, Chattanooga; and Edward Cuthbert, Los Angeles, Cal. Rev. B. A. LaGrone conducted the funeral services from the Seventh Day Adventist church in Chattanooga. Interment was in the Forest Hills cemetery.

Dr. Sidney Fain Hutcherson, Adairsville; University of Georgia School of Medicine, Augusta, 1913; aged 52; died suddenly at the home of a patient on January 12, 1938. He was a prominent physician and held in high esteem by many acquaintances. He enjoyed an extensive practice in Bartow and adjoining counties. Dr. Hutcherson was born and reared in Cherokee county, moved to Adairsville seventeen years ago. He was intensely interested in civic and religious affairs, and gave unstintingly of his time and talent to those in distress. He was a member of the Masonic Lodge and Adairsville Baptist church. Surviving him are his widow, one son, S. Fain Hutcherson, Jr.; one daughter, Mrs. R. D. Barton, all of Adairsville. Funeral services were conducted by Rev. A. B. Cash from the Adairsville Baptist church. Burial was in East View cemetery.

Dr. Otis Burgess Moyer, Soperton; member; Atlanta College of Physicians and Surgeons, Atlanta, 1900; aged 62; died in Lake Wales, Florida, January 20, 1938. He was a native of Johnson county. Dr. Moyer was one of the original settlers of Soperton, went there when the town was established. Dr. Moyer was held in high esteem by hundreds of acquaintances and enjoyed a lucrative practice. He was generous and public spirited. Surviving him are four sisters: Mrs. W. B. Cadel, Mt. Vernon; Mrs. Cliff Beckworth and Miss Vera Moyer, Soperton; and Mrs. Permenteo, Atlanta. Funeral services were conducted from the home and burial was in Soperton cemetery.

Dr. James Hawkins Heflin, Atlanta; Emory University School of Medicine, Atlanta, 1895; aged 64; died at his home after a long illness on January 24, 1938. He was a native of Jasper county. After he

graduated in medicine, he practiced medicine in Rex and later at Hogansville. On account of ill health, he retired from active practice about eight years ago. Surviving him are his widow; three sisters, Mrs. Mary Lou James, Hobart, Okla.; Mrs. W. M. Conner, Macon; and Mrs. Bannie H. Mahone, Atlanta. Rev. Irby Henderson conducted the funeral services from Springfield chapel. Burial was in Bethel cemetery, near Rex.

Dr. Jefferson Gillum Smith, McDonough; member; Atlanta College of Physicians and Surgeons, Atlanta, 1899; aged 61; died at his home after a long illness on February 5, 1938. He had practiced medicine in Henry and adjoining counties for thirty-nine years. Dr. Smith was generous in making contributions for civic purposes and energetic in his efforts to protect the health of his people. He was a leader in a number of public and private enterprises. Was a native of Butts county. Dr. Smith had hundreds of friends who relied on his integrity and professional ability. He was a member of the Henry County Medical Society and the American Medical Association, and one of the most loyal members through many years of our Association. Surviving him are his widow, his mother, Mrs. W. F. Smith, Manchester; two daughters, Miss Talitha Smith and Mrs. J. P. Pullin. Rev. Gordon Brooks conducted the funeral services from the residence. Interment was in McDonough cemetery.

RESOLUTIONS ON THE DEATH OF DR. LEWIS SAGE HARDIN

On November 12, 1937, Dr. L. Sage Hardin died at the Georgia Baptist Hospital at the age of 64. In his passing we have lost one who with rare qualities of mind and heart, had honored the profession of medicine for nearly forty years.

Dr. Hardin was born August 1, 1873 at Blacksburg, S. C., a descendent of an old and aristocratic family. His father and mother were Ira and Elizabeth Hamilton Hardin. Besides his father and mother there were five brothers.

His early education was received in the High School at Blacksburg, South Carolina. At the age of fourteen he began work as a telegraph operator for the Southern Railroad. His college education was three years at the University of South Carolina at Columbia. Following this he entered the Southern Medical College in Atlanta in 1895, from which he was graduated in 1898 with first honors. After completing two and a half years as an intern in Grady Hospital he became associated with Dr. Floyd McRae, Sr., with whom he remained for several years. Early in his medical career he was appointed instructor in surgery and chief of clinics at the Atlanta College of Physicians and Surgeons serving in this capacity from 1900-1918. From the day of his graduation and up to the time of his fatal illness he assiduously studied and taught others his art, inspiring those who worked with him to give the best that was in them and to feel that to work with him was a privilege.

He was well known at all the hospitals, having served on the staffs of St. Joseph's, Wesley Memorial, Piedmont, Grady and was consulting surgeon to the

Georgia Baptist Hospital at the time of his death.

He was married September 12, 1901 to Miss Zoe L. Daughtry. To them were born two sons, Ira, Lewis and one daughter, Caroline, now Mrs. Robert Alston, Jr. He is survived by Mrs. Hardin and the children and four grandchildren.

Dr. Hardin had been a member of Fulton County Medical Society since 1899. He was also a member of the Medical Association of Georgia, an honorary member of the Southeastern Surgical Congress and a charter member of the American College of Surgeons. He was a member of the Methodist church.

During the World War he served his country on the Military Council of National Defense for the State of Georgia. Through this organization he gave his time and financial aid unstintingly in service to his country.

Among the members of the medical profession he was esteemed as a surgeon of the highest rank. His diagnostic ability was due to his knowledge of anatomy, his thoroughness and skill in obtaining the patient's history. He could work rapidly and accomplished an enormous amount of work but each operation had to be done with an exactness characteristic of his technique. The more difficult they were, the more he enjoyed them. His few mortalities proved his dexterous hand. He took the time to explain to the patient his condition, drawing in his mind a picture with such a practical illustration that he at once won the confidence of his patient. He numbered them by the thousands and they came to him from all walks of life, from youth to age, year after year. He was loyal to his patients, giving his best to one and all alike regardless of remuneration. It was his inborn love of his work and a desire to help the sufferer that inspired the love and respect shown him by his patients. He was generous and charitable toward the poor and unfortunate.

To all who knew him he possessed three traits of character which alone would make a great man—he was the personification of honesty, honor and sincerity, he was a skillful and resourceful surgeon, he was a gentleman of the truest mold.

In his home he was a devoted husband and father. He enjoyed his home and family, spending his entire time at his office, the hospital and his home. His greatest pleasure was derived from his work but he had a great love of nature and her laws, and received his greatest recreation through the cultivation of flowers. He liked to entertain his friends in his home and was a gracious host.

He never sought honor or praise, entirely happy in his service to humanity. He was rewarded by a host of friends who considered him a capable physician and a loyal friend.

Those of us who knew him best believe that he would have preferred that death come as it did, during his active years ending a long, active and successful professional career.

We shall miss him, particularly at the hospital, where he spent most of his time, but the memory of him as an outstanding surgeon, an inspiring teacher, a true gentleman and a loyal friend will never be forgotten.

BE IT RESOLVED: That this memorial be spread on our minutes and that a copy be sent to the Medical Association of Georgia and to his family.

O. D. HALL, M.D., *Chairman*

BEN H. CLIFTON, M.D.

B. L. SHACKLEFORD, M.D.

RESOLUTIONS ON THE DEATH OF DR. R. T. DORSEY

Presented Fulton County Medical Society,
December 2, 1937.

Again the Grim Reaper has struck—removing from our ranks one of the nestors of Atlanta medicine.

Dr. Rufus Thomas Dorsey, age sixty-four years, was born September 4, 1873 at Fayetteville in Fayette county and died at his residence, 3426 Peachtree Road, N. E., Atlanta, Ga., November 9, 1937 from coronary occlusion.

Dr. Dorsey was the second son of Judge Rufus Thomas Dorsey. The family came to Atlanta in 1879 and he received his early education in the public schools here, later attended Auburn, where he was graduated in 1894.

He was graduated in medicine at the old Southern Medical College, now Emory University, and also held a degree from Jefferson Medical College at Philadelphia, having served as resident physician at Jefferson Medical Hospital after graduation.

During the Spanish-American War, Dr. Dorsey served as assistant surgeon in the Philippine Islands, returning to the United States in 1901 to become an instructor in medicine at the old Atlanta Medical College. He later became professor of clinical medicine on the staff, and also served on the staff at Emory University.

In October, 1906, he married the former Miss Laura Witham, who survives him.

When the United States entered the World War, Dr. Dorsey became a major in the Medical Corps, stationed at the Fox Hills Base Hospital at Staten Island, New York.

A leading figure in athletics when college competition in football and track was in its infancy, he organized the first Auburn football team and made the first touchdowns ever scored by Auburn on Georgia Tech, Vanderbilt, the University of Georgia and the University of Alabama.

Prominent in fraternal and professional circles, he was a member of the Kappa Alpha fraternity at Auburn, the American College of Physicians, the Southern Medical Association and the American Medical Association.

He was a member of St. Mark's Methodist Church.

For the past five years or more, Dr. Dorsey has carried on with the sword of Damocles, to use his own words, hanging over his head. To a few of his friends with that abstraction, common to the discussion of a case seen in consultation, Dr. Dorsey delineated his symptoms from their inception to the onset of the fulminating angina that preceded his death. True to the attributes which made him an outstanding clinician, gifted beyond the average in symptom analysis, he learned from his own affliction. Clinical teacher to the very last breath, he followed

the course of his illness and repeatedly emphasized his observations with the obvious intent of leaving his impressions indelibly impressed upon the mind of his colleagues—hoping no doubt that they might in the years to come, benefit other sufferers from coronary disease. Of these observations, three stand out in his narrative:

Fleeting numbness in the left arm which, in his case, was the initial symptom first experienced some five to seven years ago. This annoyance assumed significance to him only when substernal distress appeared some years later. But he catalogued and used it in his formulae in several cases observed when this symptom alone pointed to the eventual diagnosis.

The second point was that angina was not necessarily associated with effort. Many of his attacks came when he was at rest. This impressed him deeply since as he stated, he believed and taught over the years that a differential point of unfailing value was the association of anginal pain with effort.

Another observation concerned the use of agents for the alleviation of pain. He discarded amyl-nitrate and other dilators in favor of 1/200 gr. of nitroglycerine placed on the tongue. This was the most effective agent in his experience.

His disease was not associated with generalized sclerosis but followed the pattern of inheritance, his father and brother having succumbed to coronary occlusion. He taught that the best treatment for this deadly malady was an attack of angina early in life, taking this cue from a saying of Justice Oliver Wendell Holmes, who having experienced angina at forty-eight, pointed to the episode as a decisive factor in his longevity. Thus cryptically he warned that the best treatment for coronary disease is prevention and the best clinical teacher personal experience.

These points are here committed to record since they show the manner of man whom we have lost. He was realistic to a fault substituting logic and well considered facts for conclusions reached through idealism or emotion.

Underslung with commendable fortitude he faced the tragedy of coronary occlusion with high courage but he clung with some hope to the possible eventuality of established collateral circulation which might temporarily rescue him when the inevitable hour should come.

Dorsey was a great clinical teacher; an astute observer, a discoverer and assembler of symptoms data by the use of which diagnosis is rendered less difficult; a man of high courage and forthright love of his profession—so much that he chose to carry on although acutely conscious of the probable end with which each day greeted him. It is of such sterling qualities that the warp and woof of our profession is woven. Dr. Dorsey has left us an inspiring inheritance.

One further point deserves inclusion when one assays to write of Dr. Dorsey's outstanding professional characteristics. He was a strong link in the vanishing chain which holds the predominant clinical approach to diagnosis and treatment of yester-year to the era of so-called "instrument of precision" common to the practice of our day. His era was that which marks the waning of clinical in favor of scientific

medicine, and with Osler, Cabot, William Pepper, Frank Billing, Murphy and other such immortals, he chose to emphasize this approach and strove to perpetuate it. He saw danger in substitution of the impersonal machine for the art of the family doctor. He used advanced methods in diagnosis, but he made them his servant rather than his master.

WHEREAS, then in obedience to the laws of life our comrade and friend has laid down his burdens after a long and useful life; be it

RESOLVED, That we now express our gratitude for the memory of a colleague who was faithful to medicine's virtues; that we record the deep sense of loss which we feel in his passing and that these writings be spread upon our official minutes and deposited in the archives of this Society. Be it further

RESOLVED, That a copy be made available to his wife and to the members of his family.

S. T. BARNETT, M.D., *Chairman*
C. W. ROBERTS, M.D.
GRADY E. CLAY, M.D.

BOOK REVIEWS

Arteriovenous Aneurysm. By Emile Holman, A.B., M.D., Professor of Surgery, Stanford University Medical School, etc. Price \$5.00. pp. 244 with 79 illustrations. New York: Macmillan Company, 1937.

This monograph is an excellent example of combined clinical and experimental study. The effect upon the heart and the hydrodynamics of the circulation are explained in detail and the clinical findings are correlated by animal experimentation. There are chapters on congenital intracardiac fistulas, the ductus arteriosus, as well as those on congenital and acquired fistulas of the peripheral vessels. The book will aid in clearing up certain disputed points regarding the effects of this unusual lesion and will serve as an excellent reference for internists and for those surgeons interested in vascular surgery.

D. C. ELKIN, M.D.

Syphilis and Its Treatment. By William A. Hinton, M.D. The Macmillan Monographs, Pages 321. Price \$3.50; The Macmillan Company, New York, 1936.

Dr. Hinton has presented a splendid book on syphilis. From the historical introduction to the details of laboratory technic including, of course, the Hinton test, the book is a model of condensation. It is scholarly and remarkably thorough. It is extraordinary that one who has had such extensive experience should have been able so carefully to limit his remarks. The book will serve admirably either as a text for undergraduates or as a guide to the general practitioner who must, from the nature of things, treat most cases of syphilis.

Dr. Hinton still holds that mercury is most valuable in the treatment and should not be abandoned. He believes that syphilis is a likely cause of delayed union in fractures of the long bones. He does not believe that the provocative dose of arsphenamine is of value, as repeated Wassermanns will also usually eventually show a positive. He attaches less importance to repeated spinal punctures than most medical authorities have done in recent years. He supports these divergences of opinion,

however, with good arguments. The reviewer takes real exception to but one detail: he can not see the rationale of confining a syphilitic patient to "four to six cigarets a day."

If one must be content with a single volume on the subject of syphilis, he can not get a book that will serve his purpose better, and he will certainly welcome the condensation of this one.

L. M. B.

The Collapse Therapy of Pulmonary Tuberculosis. By John Alexander, M.D., Professor of Surgery and Surgeon in Charge, Division of Thoracic Surgery, University of Michigan. Charles O. Thomas, Publisher, Springfield, Ill.

No one in America is better qualified to write a book on this subject than Dr. Alexander. Twelve years previously he prepared a smaller work, "The Surgery of Pulmonary Tuberculosis," which has taken its place as a standard authority. The present volume of 700 pages is the completed outgrowth of Dr. Alexander's first effort, and leaves nothing to be desired, either in text, illustrations or arrangement. All phases of the surgical treatment of pulmonary tuberculosis are fully discussed, under such headings as historical review, physiological principles, pathology, choice of operation, phrenic nerve paralysis, pneumothorax, pneumolysis and thoracoplasty. Operative technic is clearly explained, and many cases described in detail. Striking features of the book are its freshness and the thoroughness with which it deals with every problem. Since the bulk of the work is based upon the author's extensive experience, verity marks every chapter, lending unusual value to statistics and conclusions. Dr. Alexander's new volume is indispensable to every medical library, and to every surgeon of the rapidly increasing number who are interested in this important growing subject. As usual, the publisher, Charles C. Thomas, has produced a beautiful book.

FRANK K. BOLAND, M.D.

New Pathways for Children with Cerebral Palsy. By Gladys Gage Rogers and Leah C. Thomas. The MacMillan Company, New York. Price \$2.50.

This is an excellent book for mothers, nurses and physicians who have to deal with the child handicapped by spastic paralysis. With the exception of a few deformities, surgery has notoriously failed to relieve these children. The methods described in this book are a new approach to the problem and the authors are to be congratulated on their splendid methods.

The authors operate a summer camp in Vermont called Robin Hood's Barn. There the idea is, "to create a world so adapted to the needs of these children that they will find no more obstacles to be overcome in the course of each day, than the average normal child encounters." The book describes how the children are given muscle training, relaxation and amusements which are especially adapted to the individual patient, and also contains helpful information in regard to the proper attitude of the parents and a chapter on the education of the child and character building.

From the standpoint of the physician the book presents a new and fascinating approach to an old problem. Attention is directed to the success of mental

and physical training in the pleasant form of games and play.

The book is, above all, practical, easily comprehensible and the description of Robin Hood's Barn, its purpose and the amazing work conducted there will interest all readers.

The dedication "to the memory of a boy whose severe handicaps did not prevent him from living his life to the fullest" is the keynote of the book and well defines the purpose of Gladys Rogers and Leah Thomas in their patient efforts to bring a normal world to these children.

H. WALKER JERNIGAN, M.D.

SOUTHEASTERN SURGICAL CONGRESS

SPEAKERS AND TITLES OF PAPERS FOR THE
LOUISVILLE ASSEMBLY, MARCH 7, 8, 9, 1938

- Abell, Irvin*, Louisville, Ky. Address.
- Babcock, W. Wayne*, Baltimore, Md., "The Operative Treatment of Vesicovaginal and Related Fistula."
- Ballenger, E. G.*, Atlanta, Ga., "Sulfanilamide in Combination with Artificial Fever."
- Blalock, Alfred*, Nashville, Tenn., "A Consideration of the Treatment of Shock."
- Blake, W. H.*, Sheffield, Ala., "The Surgeon and the Pelvis."
- Borland, J. K.*, Jacksonville, Fla., "Some Experiences in the Use of the Flexible Gastroscope."
- Bradley, E. B.*, Lexington, Ky., "The Interdependence of Surgeon and Internist."
- Brenizer, Addison G.*, Charlotte, N. C., "The Development of Ureteral Transplantation and Cystectomy—Two Original Methods."
- Cahill, Geo. F.*, New York City, "Studies of the Adrenals by X-ray in Adrenal Genital Syndrome."
- Campbell, Willis*, Memphis, Tenn., "Malunited Fractures of the Ankle."
- Cohn, Isidore*, New Orleans, La., "A Logical Treatment for Osteomyelitis."
- Coleman, C. C.*, Richmond, Va., and *Mayfield, Frank H.*, Cincinnati, Ohio, "Penetrating Wounds of the Brain."
- Crile, George W.*, Cleveland, O., "The Operative Treatment of Essential Hypertension."
- Davis, Edgar W.*, Washington, D. C., "Bronchial Tumors, Diagnosis and Treatment."
- Gatch, W. D.*, Indianapolis, Ind., "Some Observations on Wound Healing."
- Haggard, W. D.*, Nashville, Tenn., "Partial Cholecystectomy for Edematous and Gangrenous Gallbladder."
- Hertzler, Arthur*, Halstead, Kan., "The Operating Room Diagnosis of Uterine Bleeding." Clinic—"The Treatment of Prolapse of the Uterus."
- Heyd, Charles G.*, New York City, "The Surgical Treatment of General Peritonitis by the Hanley Operation."
- Kessler, Henry H.*, Newark, N. J., "Rehabilitation of Amputation Cases."
- Lewis, Dean*, Baltimore, Md., "General Infections, the Course and Prognosis."
- Lockwood, A. L.*, Toronto, Canada, "The Surgical Dyspepsias."
- Lyons, Champ*, Boston, Mass., "Modern Methods in the Treatment of Surgical Infections."
- McDougall, Calhoun*, Atlanta, Ga., "Diagnosis and Treatment of Lateral Sinus Thrombosis Complicating Mastoiditis."
- MacNider, Wm. DeB.*, Chapel Hill, N. C., "The Significance of Certain Changes in Fixed Tissue Cells Which Impart to Tissues a Modification in Their Function and an Acquired Resistance."
- McLeod, James*, Florence, S. C., "Non-Penetrating Wounds of the Abdomen."
- Moore, Austin T.*, Columbia, S. C., "The Treatment of Fractures of the Hip Joint by Extra Articular Fixation with Adjustable Nails."
- Moore, Chalmers H.*, Birmingham, Ala., "The Neurosurgical Treatment of Hypertension."
- Newell, Quitman O.*, St. Louis, Mo., "The Interposition Operation for Prolapsus Uteri."
- Nesbit, Reed*, Ann Arbor, Mich., "Some Recent Advances in Technic of Transurethral Prostatectomy."
- Oschner, Alton*, New Orleans, La., "Thrombophlebitis."
- Owen, W. Barnett*, Louisville, Ky., "Management of Complicated Fractures of the Forearm."
- Smith, C. C., Jr.*, Norfolk, Va., "Thyroids in Tidewater, Virginia."
- Storck, Ambrose*, New Orleans, La., "Gunshot Wounds of the Abdomen—Their Modern Management."
- Street, Augustus*, Vicksburg, Miss., "Disease of the Gallbladder and Bile Duct—Manifestations and Treatment."
- Rankin, Fred W.*, Lexington, Ky., "Modern Trends in the Practice and Teaching of Surgery."
- Truesdale, P. E.*, Fall River, Mass., "Diaphragmatic Hernia—It's Varieties."

A RESOLUTION—OPPOSES ADMINISTRATION OF ANESTHETICS BY NON-PROFES- SIONAL SALARIED PEOPLE

WHEREAS, Anesthesia for surgical operations and the alleviation of pain in other conditions, such as childbirth, is one of God's greatest blessings to humanity; and

WHEREAS, a Georgia physician, Doctor Crawford Williamson Long, discovered the anesthetic properties of ether and gave to the world his knowledge so that all the people could make use of this agent as a means of saving patients pain, and in prolonging life; and

WHEREAS, during the past twenty-five years in this and other sections of the country, the science of anesthesia has been commercialized and thwarted; and

WHEREAS, Medical Science, including the science of anesthesia, has never been, and never will be, promoted by such practice; and

WHEREAS, Anesthesia, both as to the agents used and their proper administration, must not be relegated to those people outside of the medical profession; indeed, our physicians should recognize their responsibility to the public as well as to the memory of our medical saint, Doctor Long; therefore, be it

RESOLVED: That the Fulton County Medical Society, in regular session, go on record as disapproving

the sale to the public of the services of the so-called salaried, non-professional anesthetist; and, be it further

RESOLVED: That The Medical Association of Georgia, Georgia Hospital Association, University of Georgia School of Medicine and Emory University School of Medicine be petitioned to take cognizance, and action, to improve the science of anesthesia through appropriate measures; be it further

RESOLVED: That copies of this resolution be sent to The Medical Association of Georgia, Georgia Hospital Association, the two medical schools in the State, The American Medical Association and The International Anesthesia Research Society.
November 18, 1937.

PROTAMINE ZINC INSULIN SQUIBB

Physicians will be interested to know that Protamine Zinc Insulin Squibb is now available in two strengths, 10 cc. vials of 40 units per cc., and 10 cc. vials of 80 units per cc.

Protamine Zinc Insulin has been available in the 40-unit strength since February 1, 1937. It was felt, however, that a higher potency was also needed for the many diabetics who require large amounts of Insulin daily.

While the efficiency of the two strengths of Protamine Zinc Insulin may be identical, the transfer of a patient from one strength to the other should be made only under the careful supervision of a physician until more experience has been accumulated.

Protamine Zinc Insulin Squibb is marketed under license from the Insulin Committee, University of Toronto.

SODIUM PROPYL-METHYL-CARBINYL ALLYL BARBITURATE—Lilly

Voluminous concoctions containing an unbelievable number of drugs were commonly prescribed during the medical practice of an earlier day. The ingenuity of a modern pharmacist would be severely taxed should he be called upon to prepare "Aqua Mirabilis" with its twenty strange ingredients or "Meath" which demands the use of twenty-two plant substances and results in a final volume of sixteen quarts.

A pharmacist of the past generation would have been no less confused by a prescription calling for sodium propyl-methyl-carbinyll allyl barbiturate. "Seconal" (Sodium Propyl-methyl-carbinyll Allyl Barbiturate, Lilly) is a modern short acting hypnotic having a definite field for use in preanesthetic preparation and in obstetrics. Its brief sedative effect may be beneficially employed to combat insomnia in nervous and fatigued patients.

Reference: Medical Record, December 1, 1937, page 488.

METRAZOL IN DENARCOTIZATION

The cardio-respiratory stimulant, Metrazol, is receiving considerable attention not only for emergencies during anesthesia, but for denarcotization procedures following surgical operations.

The plan which is frequently used is to inject 3 cc. of Metrazol intravenously and 3 cc. intramuscularly immediately after the close of the operation. A smaller dose, 1 or 2 cc., is given in one-half to one hour and

repeated one hour later if indicated. Usually this dose does not awaken the patient, but is given with the idea of restoring the reflexes, then allowing the patient to sleep through the pain zone with the surgical anesthetic acting as a post-operative analgesic.

According to Hogan (Amer. Jour. Surg., 38:340, Nov., 1937), "Metrazol is a milder, more uniform, more effective means of accomplishing complete aeration of the lung than the use by the individual of the carbon dioxide-oxygen mixture with the attendant dangers of over-stimulation and laceration of the smaller alveoli." Hogan has observed that often the excursion of the thorax is increased before the intravenous injection of Metrazol is completed.

Further information on Metrazol and its use in combating depression from barbitol derivatives, the opiates, asphyctic conditions, etc., will be sent upon request to the Bilhuber-Knoll Corp., 154 Ogden Ave., Jersey City, N. J.

VITAMIN THERAPY IN OTOLARYNGOLOGICAL CONDITIONS*

Four considerations now operate to foster the use of vitamins in otolaryngological practice, thinks G. M. Koepcke, M.D., Minneapolis. They are: (1) sounder, better work by investigators, (2) the visual photometer for vitamin A deficiency, (3) urinalysis and the capillary fragility test for vitamin C, and (4) to a lesser degree, the heart rate test for vitamin B.

Vitamin deficiencies, Koepcke holds, are now all but established as causative factors in respiratory infections, while infections of the nose, throat and sinuses, must be considered in the light of avitaminoses. Though vitamins must not be regarded as "cure-alls"; nevertheless, they form a useful and necessary adjunct to other treatments and preventive measures. Bircher-Benner, for instance, declares that neither prophylaxis nor therapeutics will be wholly successful if there is a vitamin deficiency.

Lowered resistance is probably due to avitaminosis A and C. Avitaminosis A substitutes stratified keratinizing epithelium for normal epithelium in the respiratory tract; and Mackie believes infections of the eyes, tonsils, sinuses, buccal and lingual mucosa, and the skin, are due to avitaminosis A. Glands of internal secretion, particularly, seem dependent on vitamin A.

Tislowitz has treated diphtheria circulatory weakness with the adrenal cortical extract.

Treatment: The nutritional type of corneal ulcers respond very well to vitamin therapy. There is pain, scratching and soreness of the eye; small punctuate areas of ulceration are seen near the limbus. These coalesce after a few days, and corneal destruction progresses rapidly. Balanced combinations of vitamins reinforced by additional vitamins A and B stimulate healing and ulceration ceases.

Congenital cataract likewise yields to vitamin treatment if it is well fortified with vitamins A and C.

The convalescent period following severe acute inflammation is shortened if vitamin therapy is used; while herpes zoster ophthalmia should be treated with vitamin B1.

If a patient complains of sensitivity to light, Koepcke recommends administration of vitamin A for several

weeks, saying that he, himself, is usually able to estimate the amount required from his own clinical observations.

In sphenopalatine neurosis, the extreme pain and discomfort are speedily eased by administration of vitamin B1.

Acute sinusitis, Koepcke advises, responds well to vitamin A plus combined concentrates; but the vitamins merely augment the routine treatment. The period needed to establish immunity to the predominating organism in the infection is much shortened, allowing quicker surgical intervention with less danger of extension of infection. The healing period is "surprisingly short." The vitamin A and concentrate must be given in large doses.

In general Koepcke concludes, vitamins may be regarded as food for the endocrines, as good preoperative strengtheners of systemic resistance, and excellent curative agents in the conditions cited above. Surgical intervention is, of course, resorted to where indicated.

*Koepcke, G. M., *Vitamins and Infections of the Eye, Nose, Throat and Sinuses*, Journal-Lancet (Oct.) 1937.

RULES GOVERNING THE AWARD OF "THE FOUNDATION PRIZE" OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS, GYNECOLOGISTS AND ABDOMINAL SURGEONS

1. "The award which shall be known as 'The Foundation Prize' shall consist of \$500.00."

2. "Eligible contestants shall include only (a) interns, residents, or graduate students in Obstetrics, Gynecology or Abdominal Surgery, and (b) physicians (with an M.D. degree) who are actively practicing or teaching Obstetrics, Gynecology or Abdominal surgery."

3. "Manuscripts must be presented under a nom-de-plume, which shall in no way indicate the author's identity, to the Secretary of the Association together with a sealed envelope bearing the nom-de-plume and containing a card showing the name and address of the contestant."

4. "Manuscripts must be limited to 5,000 words, and must be typewritten in double-spacing on one side of the sheet. Ample margins should be provided. Illustrations should be limited to such as are required for a clear exposition of the thesis."

5. "The successful thesis shall become the property of the Association, but this provision shall in no way interfere with publication of the communication in the Journal of the Author's choice. Unsuccessful contributions will be returned promptly to their authors."

6. "All manuscripts entered in a given year must be in the hands of the Secretary before June 1st."

7. "The award will be made at the Annual Meetings of the Association, at which time the successful contestant must appear in person to present his contribution as a part of the regular scientific program, in conformity with the rules of the Association. The successful contestant must meet all expenses incident to this presentation."

8. "The President of the Association shall annually appoint a Committee on Award, which, under its own regulations shall determine the successful contestant and shall inform the Secretary of his name and address at least two weeks before the annual meeting."

JAS. R. BLOSS, M.D., *Secretary*,
418 Eleventh St., Huntington, W. Va.

WRITTEN EXAMINATION

The American Board of Internal Medicine will hold its next written examination on Monday, February 14, 1938 in various centers of the United States and Canada.

The examination will consist of two sessions of three hours each with the morning session held at 9:00 o'clock A. M. and the afternoon session held at 2:00 o'clock P. M.

The candidates who are successful in this written examination will be eligible to take the practical examination which will be held in San Francisco the Friday and Saturday prior to the opening of the Annual Session of the American Medical Association in June, 1938.

The final date for filing applications for this written examination is January 15, 1938 and all applications should be in the office of the chairman before that date.

For further particulars and application blanks, please address

DR. WALTER L. BIERRING, M.D., *Chairman*
American Board of Internal Medicine,
Suite 1210, 406 Sixth Avenue,
Des Moines, Iowa.

RECENT STATEMENT BY THE JUDGES OF THE MEAD JOHNSON VITAMIN A AWARD

"The Vitamin A Award offered by Mead Johnson & Company was supposed to be made on the basis of papers published or accepted for publication by December 31, 1936. The judges of this award, meeting in New York, June 4, 1937, feel that its presentation at this time is not warranted since no clinical investigation on vitamin A has yet been published which completely answers any of the objectives of the original proposal. The judges, therefore, agreed to defer further consideration of the granting of this award until December 31, 1939. This action was taken because of the existence of pronounced differences of opinion among investigators as to the reliability of any method yet proposed for determining the actual vitamin A requirements."

Statement by Mead Johnson & Company

In view of this action by the judges of the Mead Johnson Vitamin A Award, and as an earnest indication of our good faith in the matter, we have segregated from our corporate funds on deposit with the Continental Illinois National Bank & Trust Company of Chicago, the sum of \$15,000. This cash deposit has been placed in escrow and will be paid promptly when the board of judges decides on the recipient of the Main or Clinical Award. The Laboratory Award of \$5,000 was made on April 10th, 1935.

OPPORTUNITY FOR PHYSICIANS TO TOUR AMERICA EN ROUTE TO THE A.M.A. CONVENTION

The thought that the forthcoming A.M.A. Convention in San Francisco, June 13th to 17th, is such a splendid opportunity for a tour of the United States both going and coming back, has inspired definite action. The cooperation of more than 25 State medical societies has made it possible to arrange a special train tour which will include such outstanding highlights of the North American continent as the Indian Detour, the Grand Canyon, Los Angeles, Riverside and Santa Catalina Island—on the way out to San Francisco. A choice of two return routes are possible, one of which visits the charming cities of Portland, Seattle, Victoria and Vancouver and the beautiful scenic spots of the Canadian Rockies; the second route travels via Yellowstone National Park, Salt Lake City, Royal Gorge, Colorado Springs, and Denver.

There is an all-inclusive price for this tour which includes transportation from home-town to home-town, though the tour starts officially at Chicago on Monday, June 6th, from which point an American Express escort joins the group, as this travel company has been appointed transportation agent and the business details of the trip are in their capable hands.

Let us take a preview of the tour. The first day out of Chicago, racing across the broad, wheat-growing face of Kansas, we become acquainted with our traveling companions, physicians from other states, their families and friends, and find ourselves among con-

genial, like-minded traveling companions. We first leave our train at Lamy, New Mexico, to enter the Indian Pueblo district by motor-coach. We spend a whole day exploring the traces left by a vanished civilization on this continent, visiting Santa Fe, Tesuque, Puye and Santa Clara Pueblo.

The next morning's arrival at the Grand Canyon will remain in our memories forever. The vast chasm, 4 to 18 miles wide from rim to rim gives us stupendous vistas of awe-inspiring beauty, unparalleled the world over. We drive over the famous Hermit Rim Road, skirting the edge of the chasm in the morning, and in the afternoon over the Desert View Road through the Tusayan National Forest and along the Canyon's rim, stopping at Yavapai Point Observation Station for a short, interesting lecture by the Park Naturalist. This drive ends at the Watch Tower, a recreation of the ancient towers erected by the prehistoric inhabitants of the southwest.

(Continued on next page)

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The golden, amazing city of Los Angeles is next on our itinerary, and our sightseeing trips acquaint us with its Spanish Quarter and Chinatown, as well as its beautiful environs, including flowering Pasadena. Riverside and its orange empire, its lemon and grapefruit orchards and its famous Mission Inn, is another destination; and then, on our third day in California we sail to beautiful Santa Catalina Island, playground of this land of the sun. And in this delightful manner, a week after leaving Chicago we arrive at San Francisco in time for the Convention. We shall not discuss the interesting time that awaits us at our conclaves, as the object of this article is to describe the pre- and post-convention hour. So we turn again to our itinerary after the Convention.

Supposing we had chosen Return Route No. 1. We shall visit Portland, Oregon, famed as the City of Roses, and enjoy as well a drive along the noted Columbia River Highway. Seattle is next, and here we also cover all the points of interest, including both the Lake and Sound districts. Now the Canadian part of our journey begins, and we sail by comfortable steamer to the cities of Victoria and Vancouver, where we do sightseeing. Now a train takes us into the enchanting scenic regions of the Canadian Rockies, and we stop at Chateau Lake Louise, at the lake of the same name—a gem of exquisite color, surrounded by green forests and snowy peaks. Our drives through the heart of the Rockies takes us to Moraine Lake, the Valley of Ten Peaks, Johnson Canyon and finally to Banff, where we make another stopover. After additional sightseeing around Banff, we entrain for Chicago.

Return Route No. 2 takes us to Chicago in a more southerly route. A three and one-half day tour of Yellowstone National Park is one of the highlights of this tour. Ranger naturalists conduct our party to the geysers and hot pools, and we feast our eyes on Old Faithful in its hourly eruption. We also see the Grand Canyon of the Yellowstone and Mammoth Hot Springs. Salt Lake City is on our itinerary, which gives us an opportunity to visit Saltair Beach on Great Salt Lake, also the Great Copper Mills and Smelters. Our next call is at Colorado Springs, the noted health and pleasure resort. Our travels in the Rockies take us up to the summit of Pikes Peak, to the Garden of the Gods, to Seven Falls, and finally to Denver.

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COLONIAL AUGUSTA*

In the early days the colonizers of Georgia occupied a strip of land on the west bank of the Savannah River, with Savannah at the southern and Augusta at its northern extremity. The province grew in a northerly and northwesterly direction and soon Augusta became an important center, and the history of this city coincides in some degree with that of the State. In Augusta were held important councils with the Indians; during the Revolution it was, for a time, the State Capitol; and here the Constitution of the United States was ratified after the American government assumed permanent form.

In the field of transportation two of the oldest railroads in the United States centered in Augusta—The South Carolina and the Georgia. Here, on a mill pond below the city, Eli Whitney operated his first cotton gin. In education there is in this city an institution whose age is excelled by few in America. In 1736 the Uchee Indians occupied lands above and below the present site of the city, and a creek in Columbia county perpetuates their memory. These Uchees declared themselves the most ancient people in this section.

With a view to extending the limits of colonization northward and influencing the extensive Indian trade for the benefit of Georgia, toward the close of 1735 General Oglethorpe ordered a town site marked out on the right bank of the Savannah River, at the head of navigation and just below the Falls. He named the town Augusta in honor of a Royal princess. The following year he gave orders for its population and defense, and had warehouses erected and stocked with the kinds of merchandise the Indians most desired. Regulations were promulgated and enforced looking to fair dealings between buyers and sellers. The founder of Georgia was determined

to deal honestly with the natives and would not permit any but licensed traders to do business with them, and soon this policy attracted a large trade. At first the only means of communication between Savannah and Augusta was by the river, but very soon a road through Ebenezer connected the two settlements.

As early as 1716 the Carolina authorities had established a trading post a few miles below Augusta on the each bank of the Savannah River, called Savannah town, and named for the Sawannos, or Savannahs, a native tribe inhabiting this region, hence the name of the river.

"The earliest official account of Augusta was recorded in Nov., 1740 and is as follows: "Seven miles above New Windsor, on the Georgia side, lies the town of Augusta, just below the Falls; this was laid out by the Trustees orders in the year 1735, which has thriven prodigiously; there are several warehouses thoroughly well furnished with goods for the Indian trade, and five large boats belonging to the different inhabitants of the town, which can carry about nine or ten thousand weight of deer skins each, making four or five voyages at least in a year to Charlestown for exporting to England; and the value of each cargo is computed to be from 12 to 1,500 pounds sterling. Hither all the English traders, pack-horses, horsemen, servants, townsmen, and others depending upon that business, are moderately computed to be six hundred white men who live by their trade, carrying upon pack-horses all kinds of proper English goods, for which the Indians pay in deer-skins, beaver, and other furs; each Indian hunter is reckoned to get three hundred weight of deer-skins in a year. This is a very advantageous trade to England, since it is mostly paid for in woolen and iron.

"Above the town to the northwest and on the Georgia side of the river the Cherokees live in the valley of the Applachin mountains; they were about five thousand warriors; but last year it is computed they lost a thousand partly by the smallpox, and partly (as they themselves say) by too much rum brought from Carolina. The French are striving to get this nation from us, which, if they do, Carolina must be supported by a vast number of troops, or lost. But as long as we can keep the town of Augusta, our party in the Cherokees can be so easily furnished with arms, ammunition and necessities, that the French will not be able to gain any ground there.

"The Creek Indians live to the westward of the town. Their chief town is Cowetas, two hundred miles

*The History of Augusta, by Charles C. Jones, Jr., L.L.D., and Hon. Salem Dutcher (D. Mason & Co., Syracuse, N. Y., 1890) has furnished the essential information for this article, and full acknowledgment is given to the authors.

from Augusta, and one hundred and twenty miles from the nearest French fort. The Lower Creeks consist of about a thousand; and the Upper Creeks of about seven hundred warriors, upon the edge of whose country the French fort of Albamahs lies: they are esteemed to be sincerely attached to his Majesty's interest.

"Beyond the Creeks lie the brave Chickesas, who inhabit near the Mississippi River, and possess the banks of it: these have resisted both the bribes and arms of the French, and traders sent by us live amongst them.

"At Augusta there is a handsome fort, where there is a small garrison of about twelve or fifteen men, besides officers; and one reason that drew the traders to settle the town of Augusta was the safety they received from this fort which stands upon high ground (now occupied by Saint Paul's church and cemetery) on the side of the river Savannah, which is there one hundred and forty yards wide, and very deep: another reason was the richness and fertility of the land. The great value of this town of Augusta occasioned the General to have a path marked out, through the woods, from thence to old Ebenezer; and the Cherokee Indians have marked out one from thence to their nation, so that horsemen can now ride from the town of Savannah to the nation of the Cherokees and any other of the Indian nations all on the Georgia side of the river; but there are some bad places which ought to be causewayed and made good, and which the General says he has not yet capacity to do. This road begins to be frequented, and will every day be more and more so, and by it the Cherokee Indians can at any time come down to our assistance."

General Oglethorpe deemed it very important to obtain the consent of the natives to the settlement of Europeans within their territory and early sought to make treaties with them. These agreements included mutual intercourse and trade. As to the latter, the quantity, quality, prices, and accuracy of weights and measures were stipulated. The trustees established certain regulations to prevent the impositions of which the Indians complained, and in order to carry them into effect only licensed traders were permitted to have commercial dealings with the Indians. At that time the introduction of rum and the employment of slave labor was not allowed in the province.

Augusta very rapidly assumed importance as a trading post. Multitudes of Indians came at certain seasons, traders came and departed, and boats ascended and descended the river. It was a busy scene in the midst of the wild-woods. Soon Augusta was reckoned the most important trading station in either Georgia or Carolina.

Kennedy O'Brien began the settlement of the town, and erected the first large ware-

house. As a reward for his energy and enterprise, General Oglethorpe, on Mar. 18, 1739, recommended the trustees to grant "him and the heirs male of his body" five hundred acres of land. Roger DeLacey, a noted Indian trader, was another early settler who helped establish the little settlement. At an early period a detachment of ten men, under the command of Captain Kent, was sent and supported by the Trust for the Protection of the Inhabitants. A small fort, with wooden walls, musket proof, and armed with a few small iron field pieces, was built upon the river bank where Saint Paul's church now stands. It contained quarters for the garrison but was mainly intended as protection from invasion. At that time the few dwellings were of wooden construction, and distributed along the river bank. To the south were marshes, covered with a dense tropical growth, interspersed with lagoons. Game, even buffalo, abounded and fish were plentiful. The soil was fertile, and agriculture was not long neglected. In spite of the prohibition of slavery, Negro slaves were hired from their Carolina owners and used in the cultivation of the soil. Indian corn was the principal product of the farm, and trade the chief business of the inhabitants. Some of the traders, chafing under the restrictions imposed, did barter outside the town and even set up small outposts in unprotected country in order to carry on their sharp practices, and to be as far as possible from those who had oversight over the code of conduct in trade.

At first there were no schools, school houses, schoolmasters, churches or parsons, no lawyers or doctors. For a decade the wants of the settlers were few, and there was little intellectual life. The business of the people consisted in the procurement and exchange of duffel, salt, gunpowder, lead, kettles, beads, rum, looking-glasses, trinkets and other products of European manufacture, for peltry, venison and ponies, offered by the Indians. Savannah continued as the Capitol and chief commercial city for many years, while Augusta reigned supreme as the chief trading post in the province and the point through which flowed the main course of commerce between England and the Indians.

In Sept., 1739 General Oglethorpe visited Augusta. He had gone on a perilous journey

to Coweta town to meet a convention of seven thousand Indian warriors, and he brought about pacification. "As a result of exposure, coupled with anxiety, he was prostrated with a slow fever," and sought repose in Augusta.

"As early at 1750 the gentlemen of Augusta built 'a handsome and commodious church' opposite one of the curtains of the fort, and so near, its guns afforded ample protection. This little wooden temple indicated the farthest advance the Church of England had thus far made into the Indian territory." In order to attract a minister the inhabitants of the town promised to erect a parsonage, cultivate the glebe lands, and contribute 20 pounds a year toward his maintenance. The Reverend Jonathan Copp, a native of Connecticut, and a Yale College graduate, was the first minister, coming in 1751. The Patronage of the Crown and Colonial Assembly was extended in special manner to aid churches professing the Episcopal faith, but not designed to favor them to an exclusive recognition. One of the reasons for this was that the Royal government desired some reliable agency for the registration of births, deaths, marriages and christenings that they might be kept and perpetuated. There were numerous dissenters—Presbyterians, Lutherans, Congregationalists, Methodists, a few Baptists and Hebrews. To all sects, save Papists, free toleration was accorded, and when a dissenting congregation organized and applied for a grant of land upon which to build a meeting house the request did not pass unheeded. As a precaution against domestic insurrections and other sudden dangers each white male inhabitant of the province "from the age of 16 years and upwards" was, by an act of July 28, 1757, required to carry with him "on Sabbath days, fasts and festivals" to the place of public worship within the town and district where he worshiped, "one good gun, or pair of pistols, with at least six charges of gunpowder and ball."

A justice was commissioned for the district of St. Paul by the first Royal Governor in 1754. He was authorized to hear and determine causes where the amount involved did not exceed forty shillings. More serious offenses were to be tried in Savannah.

The population of colonizers in Georgia in 1755 was dispersed and amounted to not more than 6,400; of these 756 capable of bearing arms were enrolled in the militia. In 1758 the district of Augusta became the parish of St. Paul.

The French looked with jealous eyes at the expansion of the English settlements in Georgia and did not hesitate in their efforts to incite the Indians; and so we find the citizens of Augusta petitioning the Royal Governor in 1756 for further aid. In order to counteract this influence a conference with the Creeks, Cherokees, Catawbias, Chickasas and Choctaws was held at Augusta, Nov. 5 to 10, 1763. North Carolina, South Carolina and Virginia sent representatives. A satisfactory treaty to both Indians and colonists was the outcome of this conclave.

In 1767 Augusta boasted eighty houses, a church, two wooden forts and plantations were extending as far north as Little River (now the dividing line between Lincoln and Columbia counties). In May, 1773 William Bartram, the English naturalist and botanist visited the settlement and left the following impression: "Vegetation in perfection appeared with all her attractive charms, breathing fragrance everywhere; the atmosphere was animated with the efficient principle of vegetative life. Upon the rich, rocky hills at the cataracts of Augusta I first observed the perfumed rhododendron ferrugineum, white robed philadelphus inodorus, and cerulean malva, but nothing in vegetable nature was more pleasing than the odiferous *pancratium fluitans*, which almost alone possesses the little rocky islets which just appear above the water."

Upon the passage of Lord North's bill closing the port of Boston, several Georgians, including Noble W. Jones, Archibald Bullock, John Houstown and George Walton, met at the Watch House in Savannah on July 20, 1774, and protested his Majesty's oppressive acts. A committee was appointed to solicit, receive and forward subscriptions and supplies for the suffering poor of Boston: 579 barrels of rice were contributed and sent. However, not everything was harmonious, and there were many, including Hon. James Habersham and Col. Noble W. Jones who maintained their allegiance to the

Crown; and on Oct. 12, 1774, a protest to the sentiments of the Watch House committee was registered and sent by thirty-eight citizens of the Georgia Parish of Saint Paul. Commenting upon this state of affairs Dr. C. C. Jones made the following wise comment: "No case of quarrel can be more dangerous than that involving a conflict of opinion touching the relative rights of the governing and the governed. No calamities are so appalling as those engendered in a strife between peoples of the same race, and claiming privileges emanating from the same fountain head. Polybius was right when he said that such dissensions were to be dreaded much more than wars waged in a foreign country, or against a common enemy."

On June 21, 1775 a Council of Safety was formed in Savannah in order to "maintain an active correspondence with the Continental Congress, with councils of safety in other provinces, and with the committees nominated in other parishes in Georgia." Another resolution adopted provided "that Georgia would not afford protection to, or become an asylum for, any person who, from his conduct, might be properly considered inimical to the common cause of American liberty, or who should have drawn upon himself the disapprobation or censure of any of the other colonies." In disregard of these resolutions, Thomas Brown, described by the Royal Governor, Sir James Wright, "a young gentleman of Augusta," actively opposed the Council of Safety in the Parish of St. Paul, and proclaimed his allegiance to the Crown. This action on his part attracted the notice of the "Liberty Boys," who gave Brown warning, which he refused to heed. As a consequence he "was arrested by a mob of Revolutionists," tarred and feathered, hoisted into a cart, illuminated for the occasion, was paraded through the principal streets for hours, and later forced to seek protection in South Carolina. He later took service with the King's forces, became an officer, returned to Augusta, and wreaked vengeance for the outrage and humiliation which had been heaped upon him.

On July 4, 1775, The Provisional Congress assembled in Savannah, and the result was the erection of Georgia into a body politic. In Mar., 1776, Sir James Wright, the

Royal Governor fled from Savannah. In 1777 parishes were abolished and counties substituted, the Parish of St. Paul becoming Richmond County.

After the capture of Savannah in Dec., 1778 Augusta was the only post in Georgia which had not succumbed to the Royal arms. In July, 1779, Col. Campbell was sent with one thousand armed men to capture the town. In advancing to effect this he sent forward Colonels Brown (Thomas Brown, mentioned above) and McGirth with four hundred mounted militiamen. Very soon Augusta fell to the attackers, and Col. Brown was left in command of the town. Georgia was now in complete control of the King's forces. At that time few recruits could be had for the Revolutionists, as so many of the remaining inhabitants were sympathizers with the Crown, and upon the fall of Augusta the people of Wilkes County packed as many of their belongings as they could and fled, some going to Carolina. Col. Campbell dispatched troops to the country above Augusta, but reinforcements came from Carolina and, after spirited fighting, the Tories and the King's forces were overcome; and, the pressure being too great, Col. Campbell decided to quit Augusta.

When Savannah fell to the Royal forces in 1778, the Capitol was removed to Augusta, but so rapidly did Col. Campbell march his forces that by late Feb., 1779, a seat of government for Georgia existed in name only; it had to be moved so often that it was described as peripatetic. The public records were sent out of the State for safe-keeping, and little of government was carried on. No attempts were made to levy and collect taxes; legislative convocations and enactments were suspended, and the courts were closed. When Augusta again passed into the hands of the Republicans the members of the Council of Safety assembled at the home of Matthew Hobson to transact such business as the emergency permitted. The General Assembly convened in Augusta in July, 1779, but only twenty-five members were present, too few to transact business constitutionally; but they went so far as to appoint a Supreme Executive Council for the State. This latter was without constitutional authority, but was agreed to as an emergency measure.

On Oct. 9, 1779, the Allied army (Americans and French) suffered a bloody repulse before Savannah, and after their withdrawal many citizens of Southeastern Georgia sought refuge in Augusta. A period of intense anxiety and uncertainty followed. Brigadier General Andrew Williamson was encamped near Augusta with three hundred militiamen, the largest force assembled in one place for the Revolutionary defense of the State. General Williamson could neither read nor write, and entrusted the details of his command to his aid-de-camp, Malcolm Brown, a Royal sympathizer. As soon as British soldiers made their appearance the General advised his officers that resistance was useless, and counseled them to return to their homes and accept the protection offered by the King's forces. All the while he concocted his infamous scheme he held the King's protection in his pocket, and for his perfidious act received a colonel's commission in the service of the Crown.

Following this traitorous act two notorious partisan officers of the Royal forces occupied Augusta—Colonels Thomas Brown and Grierson. Col. Brown was now in command of the town, in the streets of which he had suffered such indignities, and was bent on revenge. His first move was the sequestration of the property of all Republican inhabitants, and banishment beyond the limits of the province of all Whigs and their sympathizers. Many of these people traveled as far as North Carolina and to what is now Tennessee, and great was the suffering, sickness and loss of life. Following this he had five inmates of the jail publicly strangled.

Aroused by these outrages Col. Clarke attempted to collect a force of Georgians and enlist the aid of South Carolina. They assembled forty miles above Augusta at Soap Creek. Marching rapidly they came to McKay's trading post, about a mile and half west of the town—Brown's headquarters—now known as the White House at 1822 Broad Street. From Sept. 14 to Sept. 18, 1780, they laid siege to this place, which was occupied by Brown's troops and his Indian allies. During this time water became so scarce that Brown ordered all urine saved, and he rationed this out to his men, he taking the first drink. On the morning of Sept. 18,

five hundred British regulars arrived from Ninety-Six, S. C., under the command of Col. Cruger to aid the besieged, and the patriots deemed it prudent to raise the siege. On doing so their ill and wounded were left in Augusta, and among them, the gallant Capt. Ashby. Brown, now in complete control of the town, had Ashby and twelve other wounded men choked to death on a hastily constructed gibbet erected on the stairs of the White House. Col. Brown had received severe wounds in both thighs but insisted upon being brought to a position of vantage so that he might enjoy the barbarous and cruel spectacle. After these wounded soldiers were strangled to death their bodies were turned over to the Indian supporters of the Crown, who scalped them and threw the remains in the river. The entire surrounding country was subjected to a most rigorous search. Republican sympathizers were dragged from their homes and cast into prison, and those suspected of having been members of Clarke's command were hanged without even the mockery of a trial.

Col. Brown now moved his headquarters to the original fort in the center of the town and named it Fort Cornwallis; Col. Grierson moved into Fort Grierson—named for him—located on the site now occupied by the Riverside Mill. The two forts were separated by an almost impassable marsh which connected Beaver Dam Creek with Savannah River. This swampy, sodden ground crossed Broad Street in the locality of Kollock and Cumming streets, and was known as "Campbell's Gut."

After recovering from smallpox Col. Clarke again assembled a small force and was joined by troops from South Carolina under the command of Gen. Andrew Pickens and Lt. Col. "Light Horse Harry" Lee. On his way to Augusta, Col. Lee learned that the annual gift from the Crown to the Indians had arrived at Silver Bluff. At this place was located the brick house built by George Galphin, and used as a trading post. Col. Brown had sent two companies to this place to guard the King's present, and used the substantial brick house as a garrison, calling it Fort Galphin. This fort was about fifteen miles below Augusta, on the Carolina side of the river. The gift consisted of powder, ball, small

arms, liquor, salt, blankets and other articles needed by the patriots. By a ruse the fort and its contents were captured on May 21, 1781, and here Capt. Rudolph (whom ill-defined tradition identifies as Marshal Ney in disguise) acquitted himself gallantly.

The same evening the patriot commanders converged on Augusta and shortly Fort Grierson was captured. Col. Grierson surrendered, but was shot to death by a Georgia rifleman whose identity was never known, but Capt. McCall, in his history of Georgia, intimates that he was killed by one of the sons of a venerable Mr. Alexander, who had suffered many indignities at the hands of Col. Grierson. The besiegers next turned their attention to Fort Cornwallis. After a siege, and gallant defense, lasting until June 4, 1781, Col. Brown was allowed to capitulate with "every mark of military respect." Capt. Rudolph took possession of the fort at noon the next day. In London in 1812, Col. Brown was convicted of grand forgery upon the government he had helped defend, and spent his last days in disgrace and ignominy.

The capture of Augusta by the patriots was a blow to the British, and was the forerunner of the ultimate triumph of the Revolutionists. Savannah was evacuated by the King's forces July 11, 1782. So sadly had Augusta suffered from the ravages of the war that it became necessary to provide quarters for the Governor and the heads of the departments of the State. This was done while the Legislature convened in Savannah in July, 1783. The following July the General Assembly again convened in Augusta, and continued to do so until 1795, when Louisville was designated "the seat of government."

In the *Georgia Gazette* of Thursday, May 29, 1783, the following is found: "On Wednesday last when the great and joyful news of peace reached this place, properly authenticated, a very eloquent and sumptuous entertainment was provided, when upwards of three hundred ladies and gentlemen dined under a large bower made for the purpose." Later the company adjourned to Mr. Fox's home, where a ball and supper were enjoyed.

Certain property surrounding the town was set apart, the proceeds of the sale of which was to be used for the "location, erection and support" of an "academy or seminary of learning." Thus in 1783 came into

being The Academy of Richmond County, one of the oldest seats of learning in America and which is still thriving. The trustees of the Academy still manage some of this property to the south of the city, and the old medical college building reverted to the Academy when it ceased to be used for the purpose for which it was built. Also, it was in Augusta that the Legislature perfected those liberal bills which gave the State a university, and this was a most stupendous undertaking when one recalls the hardships the people had suffered; and Augusta, through her prominent citizens, had an important part in this bold and cultural undertaking.

In 1785 the first newspaper in the town was started, the *Augusta Chronicle and Gazette of the State*.

By 1791 Augusta is said to have had two hundred and fifty houses, and a population of eleven hundred. The public buildings consisted of a church, a court house, a stone jail a government house for the accommodation of the Governor and State officials, an academy where eighty to ninety pupils were instructed, and three warehouses with a capacity of ten thousand hogsheads of tobacco. In that year six thousand hogsheads were inspected.

On Wednesday, May 18, 1791, General Washington visited Augusta, was received with that deference and honor befitting his position, and departed the following Friday.

On July 31, 1798, Augusta was incorporated, and Thomas Cumming was made its first intendant. Previous to that time the town was governed by commissioners or trustees.

The curtain rose upon a feeble trading post, isolated and surrounded by aborigines who resented the intrusion of the white man and his ways. The descendents of these same Caucasians live in the Augusta of today, treasure the traditions of the past, and with open arms will welcome you when you come as their guests.

GEO. A. TRAYLOR, M.D.

The Mississippi Valley Medical Society offers a cash prize of \$100.00, a gold medal and a certificate of award for the best unpublished essay on a subject of interest and practical value to the general practitioner of medicine. For additional information write: Harold Swanberg, M.D., Sec'y, 209-224 W. C. U. Bldg., Quincy, Ill.

EARLY MEDICINE IN AUGUSTA

At the beginning of the nineteenth century medical practice, organization and education were destined to undergo many changes. Not only were these changes shared by our native State but many of them originated within its borders; particularly was this true in Savannah and Augusta, our two most populous cities at that time.

In Augusta lived a small group of physicians richly endowed with a zeal to promote the higher interests of their profession not only in practice but in medical organization and education as well. The need for such promotion was apparent from the fact that "at the close of the eighteenth century the entire State of Georgia was attended by less than one hundred physicians."¹ Practically all of these men obtained their medical knowledge by the old apprentice method. "I have found a record of only one Georgia student upon whom the degree of Doctor of Medicine was conferred before 1800 in this country."¹ Quackery must have been common; in fact it would appear that many of the early medical meetings were held for the purpose of correcting this evil.

Medical education was not to be had anywhere in Georgia and at few places in the South. Confronted with this and other problems this group of Augusta physicians started making plans toward their correction. The first record of their meeting was one held Dec. 16, 1797, at which a fee bill was adopted. This was published in the *Augusta Chronicle and Gazette* on Jan. 6, 1798. Eight years later another notice for a meeting was published in the *Augusta Herald* but no record of what transpired was recorded.

In 1822 "The Medical Society of Augusta"² was incorporated as an association by an act of the General Assembly. Ten members were enrolled. The original constitution and by-laws in manuscript are zealously guarded to this day in the library of the College. The comparative age of this society is realized when the first in the United States to be incorporated by a state legislature was then only 41 years old, the Massachusetts Medical Society organized in 1781. That society also published a fee bill and discouraged quackery. The first society in Georgia was the Georgia Medical Society of Savan-

nah, organized in 1804. THE MEDICAL ASSOCIATION OF GEORGIA was organized in 1849.

A new constitution and by-laws was adopted in 1829. In the by-laws is found a section dealing with "Medical Police." No nobler code of medical ethics could be had to this day and, while priority or originality would be desirable, it must be pointed out that identical wording of this document was published in *Medical Repository* — volume 12, page 173, 1809 — under the caption "Boston Medical Police."

There is reason to believe that Augusta physicians had in mind from the beginning the founding of a teaching institution as well as a state organization to regulate medical practice through a board of examiners. In 1825³ Dr. Milton Antony and a few other physicians had created by the Legislature such a board. It was to convene annually at the State Capitol in Milledgeville to examine applicants and grant licenture to practice within the State. But to grant licenture medical training was first necessary. As early as 1826 Dr. Antony and his pupil, Dr. J. A. Eve, had started teaching a few students in the old hospital. In 1928 he (Dr. Antony) together with a few other physicians, both local and from over the State, applied to the Legislature for a charter to establish a Medical Academy of Georgia. This was granted. Twenty-four physicians were appointed as trustees, which body also constituted the examining board to pass on candidates for graduation and to confer the degree of Bachelor of Medicine. Three professors were appointed: Dr. Lewis D. Ford, Professor of *Materia Medica*, Chemistry and Pharmacology; Dr. William Waring, Professor of Anatomy and Surgery, and Dr. Milton Antony, Professor of Institutes and Practice of Medicine, Midwifery and Diseases of Women and Children. As the institution could only confer the degree of Bachelor of Medicine a communication was sent to the Medical College of South Carolina inquiring whether or not that institution would accept a Georgia diploma as equivalent to one course of lectures and confer the degree of Doctor of Medicine upon graduates of the Medical Academy of Georgia if, after examining the candidates, they deemed them worthy of the degree. The

reply was that the South Carolina institution could not accept students at all until the standards of the Georgia school were raised, whereupon the trustees applied to the Legislature for a change of name and the power to confer the degree of Doctor of Medicine. This was granted Dec. 19, 1829. The new name became the Medical Institute of the State of Georgia, but in 1833 it was again changed to the Georgia Medical College.

Toward the maintenance of the young college the Legislature granted \$10,000 and the city council of Augusta gave \$5,000. With these funds a medical college building was started in May, 1834, on a parcel of land given by the trustees of the Richmond Academy. This building still stands on the corner of Telfair and Sixth Streets. It was "acknowledged by all who have examined it, to be the most appropriate and convenient for medical purposes in the United States."

There were six professors in the school. Each of these gave \$1,000 toward equipping a museum and library. Dr. L. A. Dugas, who had planned a trip to Europe, agreed to purchase the equipment. Many of the models and books he bought are still the proud possessions of the College.

To the Georgia Medical College is due the credit of being the first institution of its kind to make an appeal for a longer term of lectures. The prescribed lecture course was two terms of four months each, but this was increased to six months in the local school. Also, in May, 1835, a form letter was sent to the various medical colleges in the country asking for "a convention of representatives from the medical colleges to be held in Washington for the purpose of establishing a uniform system of requisition for the degree of Doctor of Medicine; of regulating the courses of professional study; the extent of previous education and counseling generally about the means of diffusing the benefits of medical education." The response was scant and discouraging. The College was forced to reduce the lectures to four months as the students were seeking the shorter terms elsewhere. In 1874 the University of Pennsylvania extended its course of lectures to five months with an additional month of preliminary letters, claiming priority of movements in establishing a six months course.

Yet the communications were not without effect. Dr. James J. Walsh in the Encyclo-

pedia Americana said that "the origin of the *American Medical Association* was the result of a letter written by Dr. Antony to the deans of all medical colleges of the United States for the purpose of regulating medical education, and improving the professional status of the American physicians."

The College grew rapidly as is shown by an enrollment of 140 students in 1840 which was approximately the same as now.

Desiring "to advance the interests of that profession in which the good of society is most deeply and vitally involved," *The Southern Medical and Surgical Journal* was established by Dr. Antony in 1836. It was one "that should collect and preserve the valuable discourses and improvements of Southern practitioners relative to the nature and treatment of diseases incident to southern climates, which, for the want of some such convenient and suitable repository, are generally entombed with him with whom they originate, and thus forever lost to the world." The Journal, a 64 page periodical, was published monthly until Dr. Antony's death from yellow fever in 1839. It was then suspended until 1845 when its publication was resumed by Dr. Paul F. Eve and Dr. Ignatius P. Garvin.

A program of improvement was started in 1935 and its success is measured by completed and approved buildings; increased number of instructors, research workers and professors; and is assured the preservation of the same spirit which animated its founders. Space forbids a further account of early or recent medical history in Augusta.

In Augusta blends a noble past, an energetic present and a promising future.

On April 26, 27, 28 and 29 it again becomes our pleasure to be host to THE MEDICAL ASSOCIATION OF GEORGIA, an organization carrying on in a noble way the work started by our pioneer Georgia physicians. No effort is being spared in planning for your entertainment at the magnificent Forest Hills Hotel in the beauty and quiet of our hills.

Your coming will be our pleasure.

R. C. MCGAHEE, M.D.,
President, Richmond County
Medical Society

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MEDICAL PROGRESS IN AUGUSTA

The medical progress of Augusta is indissolubly bound up with the history of the University of Georgia School of Medicine, founded by Milton Antony and his associates in 1828 as the Medical Academy of Georgia. The name of the school was changed shortly after its founding to Medical College of Georgia and later to Medical Department of the University of Georgia; then later still to its present name.

Milton Antony founded and for some time edited the Southern Medical Journal. He was

Following Antony and Dugas came such men as Henry Fraser Campbell, who is credited over Claude Bernard with priority in publication of reports on the excito-secretory function of the nervous system; Joseph Adams Eve, who held the chair of obstetrics and diseases of women and children for fifty-three years and was a pioneer in advocating better preliminary preparation for the study of medicine and a longer curriculum; Paul Fitzsimmons Eve, distinguished volunteer in the Polish war with Russia in 1831 (in honor of which service Polish physicians

*Old Medical
College Building,
Telfair Street,
Augusta*



the author of many medical and surgical articles, among which stands out: "Cases of Fracture of the Femur — Adjustment by Weight and Fulcrum." In 1823 he published a paper in the Philadelphia Medical Journal considered as "probably the first operation on the lung." Dr. Antony died while a comparatively young man in the yellow fever epidemic of 1839.

Dr. Louis Alexander Dugas, for whom the new class room and laboratory building of the school of medicine was named, was one of the most distinguished physicians of his time and has left to posterity Dugas' sign for dislocation of the shoulder. He was at one time editor of the Southern and Medical Journal and with Milton Antony was one of the founders of the school of medicine. Dr. Dugas was a great surgeon, fertile in invention, bold and successful in execution.

have erected a monument to his memory in Augusta) and eminent surgeon, as well as president of the American Medical Association and author of numerous important articles on surgery, many of which were published in the Southern Medical and Surgical Journal. Other distinguished physicians in Augusta who have been colleagues of some of the foregoing or who have followed them have been Lewis D. Ford, I. P. Garvin, Alexander Means, George M. Newton, Alexander Cunningham, George W. Rains, Eugene Foster, Thomas R. Wright, George A. Wilcox, Thomas D. Coleman, Joseph Eve Allen, J. B. Morgan, Wm. H. Doughty, James M. Hull, Noel Moore and Charles W. Crane. Other distinguished Augusta physicians are still carrying forward the torch held high by their eminent predecessors.

The history of medical progress in Augusta has been in itself much the same as in any



*University of
Georgia School
of Medicine,
Augusta.*

other community. Innovations in medical and surgical practice have been brought in from without and that which was found good has been retained or improved upon; that which has been found wanting has been discarded. Augusta has differed from most communities in having in its borders a school of medicine with its various departments housing men and equipment for medical research. This means that everything new has not come from without, but that much that is new is sent out from this medical center. Much of the investigation that is carried on is pure research, while on the other hand much of the work of this nature is of the greatest practical value.

In addition to striving toward the best in medical research, Augusta has seen forward steps in medical education. In so far as we know the school of medicine here is the only one in the world that has a course in domiciliary medicine (except in obstetrics). For twelve years the senior students have been required under supervision to treat patients in their homes as well as to work up cases in the hospital wards and in the outpatient department. In so far as we know the first department of tuberculosis in any medical school has been promulgated here. Other additions during the current school year have been quasi full-time departments of psychiatry, neurosurgery and anesthesia.

Medical progress in Augusta has continued hand in hand with the activities of the school of medicine and this intimate interrelationship will no doubt continue. The ambition of the school of medicine, however, is to be a leader in medical and surgical thought in Georgia. While in its early days this school was more or less part and parcel of the city, this status can no longer obtain. The writer hopes that "the Augusta Medical College" will soon be a name of the past and that all Georgians will call the school of medicine of their State University by its correct title, namely, the University of Georgia School of Medicine. As time goes on may we hope that medical progress in Georgia will be synonymous with progress in research and in principles of medical education in this institution which was cradled in Augusta but now more than ever belongs to our great commonwealth as a whole.

G. LOMBARD KELLY, M.D., *Dean.*

Representatives of the American Society for the Control of Cancer sponsored local meetings in Georgia at the following places and dates: Henry Grady Hotel, Atlanta, March 12th at 10:30 A. M.; Hotel Dempsey, Macon, March 14th at 10:30 A. M. Mrs. Marjorie B. Illig of Massachusetts, National Commander, Women's Field Army, attended the meetings. Mrs. H. B. Ritchie, Athens, State Commander, was in charge of the meetings. It was announced that conferences would be held with the Cancer Commission of the Medical Association of Georgia.

AUGUSTA HOSPITALS

Records disclose that the citizens of Augusta have long recognized their responsibility in providing medical and hospital care for the needy. In minutes of City Council from 1804 to 1810 frequent references can be found of the payments of sums of money for such purposes. At that time the municipality did not have a hospital, and it is presumed such remuneration was to those who were willing to care for the indigent ill in homes.

The first record of a place being used as a civilian hospital was in 1817, when there appears in the minutes of Council for March 7 of that year the payment of a sum of money to Dr. John Carter for attendance on patients at the hospital; and on July 7 of the same year of \$31.00 "for rent of a house for a hospital." Just where such building was located or how long it was used for this purpose is not stated.

On Dec. 6, 1817, City Council appointed the intendant (Mr. Freeman Walker) and Mr. Hale to meet with the trustees of Richmond Academy "to confer on the subjects of a poor house, hospital and powder magazine." On March 7, 1818, the two representatives from Council with Mr. Walter Leigh from the trustees of the Academy reported back to Council "that part of the city commons south of Watkins street between Lincoln and Houston streets" had been surveyed "and when squared extended back 264 feet." The first square was proposed as a suitable burying ground, and the one immediately below was recommended as a site for a poor house and hospital. The square at the corner of the east and south boundaries was chosen as suitable for powder magazines; two small brick structures built for this purpose still stand on this location and only in recent years have ceased to be used.

This land was to become the property of the City of Augusta when properly deeded by the trustees of Richmond Academy. Following this report Messrs. Walker and Hale were delegated "to contract for the best manner for building a poor house and powder magazine" but no disposition was made of the matter of a hospital. However, on April 25, 1818, Messrs. Cumming, Slaughter and Howard were appointed a committee "to contract for the building of a poor house and hospital."

On May 9, 1818, Council met and resolved that the above named councilmen "be instructed to ascertain whether a lot more suitable for the said building than the one hitherto assigned could be procured." At the same meeting an additional resolution was passed that this committee be authorized "to fix on and procure a site for said building, and to contract for the completion thereof as soon as possible." On June 26, 1818, the committee reported they had bargained for a lot of land of about $2\frac{1}{2}$ acres, bounded on the north by Greene street, on the east by an unnamed street (probably what is now Forsyth street), on the south by Telfair street and on the west by Houston street, and that they had contracted for the erection of a hospital on this plot. The deed conveying this land to the city is on file at City Hall, and is dated July 1, 1818. The city paid the trustees of the Academy \$1,000.00 for this property. A two-story wooden structure was built, extending east and west on Greene street, and occupied the site of the present Widow's Home. This first Augusta hospital must have been completed and ready for occupancy by the middle of September, 1818, for Council authorized the hospital committee to employ "some fit person to take charge of the hospital recently erected, and to purchase the number of mattresses required, to employ physicians when their attendance was necessary, and to enclose the grounds." April 17, 1819, the city entered into an agreement with Mr. John M. Turner to act as the first superintendent of the institution, at a salary of \$700.00 a year, on condition that he was to supply all servants necessary. In May, 1823, the city engaged Dr. D. B. Thompson as the first hospital physician. His salary was \$300.00 a year, and at that time the daily average of patients was six.

How long this building served as a hospital is not definitely known but it is stated by one of the charter members of the Board of Visitors of the Widows' Home that about fifty-five years ago a frame building was torn down and the present brick structure substituted.

The first meeting of the faculty of the Medical College of Georgia (now the Medical Department of the University of Georgia) was held Oct. 17, 1833. The first classes



University Hospital, Augusta

were taught in two rooms of the hospital. The original building of the medical school at the corner of Washington and Telfair streets was not completed and used for teaching until 1835.

In 1852 Drs. Henry F. and Robert Campbell established the Jackson Street Hospital, also called Campbell's Infirmary. It had a bed capacity of fifty, and an ample lecture hall. This institution was operated for the purpose of giving much needed medical and surgical care to negroes of the surrounding country. Here the rich planters sent their slaves in need of hospitalization. "It was provided with every comfort of the times comparable with hospitals for white patients." *The Daily Constitutionalist and Republic* of July 13, 1854, has this to say of the infirmary: "Cold and hot water for baths is carried to every story from the kitchen to the attic. The large hall on the first floor is conveniently arranged for an ample supply of light for surgical operations. From this room the patient can be conveyed, on his bed, by means of ropes and pulleys to one of the upper stories where he may be assigned to a more retired room. Rooms are provided with gas lights and fire-places. The owners of slaves in town and country will find this infirmary a great convenience. We have been made acquainted with the surgical operations performed by Dr. Henry F. Camp-

bell which entitle him to high rank for skill in that branch of his profession." This hospital continued in active operation until after the War Between the States, when it was superseded by the hospital of the Freedman's Bureau. The building is in good state of preservation, is on the southeast corner of Jackson and Fenwick streets, and is now in use for commercial and residential purposes.

When the sick and wounded began to return from the area of fighting during the internecine struggle, Richmond Academy, the First Presbyterian Church and the original St. Patrick's Church were converted into temporary hospitals. These three buildings were located within proximity of each other and the medical school. The stories of the ravages of hospital gangrene have come down to us, and it was while working in these emergency hospitals that one of the most illustrious surgeons this country has ever produced, Dr. Louis A. Dugas, sought for something to combat it. This was before the time of Pasteur and Lister, and prior to antiseptics and asepsis. Dr. Dugas tried tar water, made by "pouring a gallon of hot water upon a gill of pine tar and stirring it a little." His comment as to the use of this preparation was: "It is the best disinfectant I know of in hospital gangrene, and altogether, I think, the best application." We are told he had some measure of success, but, be that as it may, his

*Wilhenford
Children's
Hospital,
Augusta.*



reasoning was surgically sound.

After the war Freedman's Bureau erected a hospital on the City Commons. For many years it was used by the medical school for its teaching and clinical facilities. The following notation is in the minutes of a faculty meeting of March 5, 1867: "Resolved: That the thanks of the faculty be returned to the medical officers in charge of the Freedman Bureau Hospital for their uniform courtesy and for the facility for clinical instruction afforded at that institution during the session just closed." This facility and feeling of amity must have existed as long as the hospital was operated by the bureau as the writer has had physicians who were students at the school long after the above date tell of their experiences while attending instruction there.

At a meeting of City Council Jan. 25, 1869, members listened to a petition from the faculty of the medical school relative to the erection of a hospital to the rear of the medical school. An instrument was drawn between the contracting parties the following April, and a two-story wooden structure was built at a cost of \$6,100.00. This hospital was operated by the Franciscan Sisters, under the supervision of the faculty of the medical school.

In 1881 the city was confronted with inadequate accommodations for its sick, and in the latter part of that year a third story was added to the hospital at a cost of \$3,200.00. In 1884 the average number of patients daily was twenty.

During the years 1893 and 1894 a three-story brick building was built on the site of

the above mentioned hospital at a cost of \$39,000.00, and had space for one hundred ward beds and thirty private patients. This was called the City Hospital, and was where internships of some physicians now in practice were served. The first training school for nurses in Augusta was inaugurated in this institution by Dr. W. H. Doughty, Jr., and Miss Anna David.

In 1895, City Council purchased a lot at the corner of Gwinnett and Harrison streets and, through the provisions of the will of Mr. Casenove Lamar, erected the Lamar Hospital, a modern and up-to-date institution for the care of negroes. Up to this time members of this race had continued to be cared for at the Freedman's Hospital, but this institution was now made a contagious disease hospital. The Lamar Hospital was destroyed by fire in 1911, and a small building in the rear of Haines Institute (colored) was donated as a temporary place for caring for the colored race until Freedman's Hospital could again be put in condition for the reception of patients. This arrangement held until the present accommodations were supplied.

After the report of the Carnegie Foundation on medical education it was realized by the faculty of the medical school, as well as by numerous influential citizens, that hospital accommodations would have to be improved if the city was to care for the increasing number of its sick and those seeking care from the surrounding area. To meet this need, and to give the medical school increased clinical facilities, the present University Hospital was erected, the cost of which, with furnishings,



*Dugas Building,
Augusta.*

was well over \$400,000.00. This group of buildings, housing both white and colored, was completed in May, 1915. The Milton Antony wing was added in 1934, the first floor of which is used for the out-patient department of the hospital and the second floor as a contagious disease ward.

The table below shows the increase in the daily average of hospital patients for the years named:

| | |
|-----------|-----|
| 1818..... | - 6 |
| 1862..... | 11 |
| 1884..... | 20 |
| 1902..... | 34 |
| 1922..... | 126 |
| 1929..... | 168 |
| 1935..... | 205 |
| 1936..... | 230 |

This citation is evidence that medical men, with the cooperation of a beneficently-minded community, can take care of its medically indigent, can do so in an humanitarian and satisfactory manner; and, while the expense is great, it is not anything like so great as will be the case if we have socialized medicine. Augusta is not cited as being unique, for many other municipalities have done as much or more; but as an example of what can be accomplished in every county in Georgia, provided the legal restrictions be removed so that counties are allowed to appropriate money to erect hospitals, and render other necessary service to its needy ill. The unit of this service to our less favored citizens should be a close liaison between the county commissioners and the county medical society.

GEO. A. TRAYLOR, M.D.

BENZEDRINE SULFATE AND ATROPINE IN TREATMENT OF CHRONIC ENCEPHALITIS

ISIDORE FINKELMAN, Chicago, and LOUIS B. SHAPIRO, Elgin, Ill. (*Journal A. M. A.*, July 31, 1937), treated twelve patients with post-encephalitic parkinsonism during consecutive periods with atropine, benzedrine sulfate plus atropine, benzedrine sulfate alone, and again with benzedrine sulfate plus atropine. The best results were obtained during the combined treatment of atropine and benzedrine sulfate. Although atropine alone caused a diminution of tremor and rigidity, the addition of benzedrine sulfate caused improvement in the sleep cycle and reduced the frequency or caused the disappearance of oculogyric crises, and there was a feeling of increased energy. Two of the patients died during an influenza epidemic. Both had a history of head trauma. The relation of increased sympathetic stimulation to a reduction in resistance to pneumonic infection and the contraindication of benzedrine sulfate in patients with head trauma needs further study.

THE FUTURE OF MEDICINE: CHAIRMAN'S ADDRESS

J. H. MUSSER, New Orleans (*Journal A. M. A.*, July 31, 1937), discusses the scientific, the economic and the educational future of medicine in the light of contemporaneous conditions. Scientifically medicine will undoubtedly progress. Economically and socially the future is less clear, but it can be safely assumed that the delights of accomplishment and the fascination of the problems of medicine will ensure happiness to its practitioners. Educationally the future is bright. Undoubtedly many from a well trained group of men will take advantage of the facilities now existing and those to be established to qualify themselves as experts in limited fields of practice.

The American Board of Ophthalmology announces that examinations will be held in San Francisco on June 13, 1938; Washington, D. C., October 8; Oklahoma City, November 15. Applications should be filed immediately. Required number of case reports must be filed at least sixty days before the date of examination. Get application blanks from Dr. John Green, 3720 Washington Avenue, St. Louis, Missouri.

TELL-TALE EVIDENCE IN CERTAIN OVARIAN TUMORS†*

RALPH H. CHANEY, M.D.
ROBERT B. GREENBLATT, M.D.
Augusta

Introduction

In the middle of the last century Virchow formulated certain fundamental principles concerning tumors, so that we still adhere to his definite tenets that a neoplasm is a parasitic growth, featured by its autonomous character, proliferating without restraint or purpose and serving no useful function. Early in this century Bard was severely criticized when he enunciated the dictum "neoplastic cells continue to produce their physiologic secretions." He was, to use a colloquialism, "born twenty years too soon." Today we appreciate that his maxim was at least in part well founded. Realizing this, our newer concept of tumors permits their classification into two groups: (a) Neoplasms without purpose and without function; (b) Neoplasms without purpose but with function. It is with the latter that we are concerned. The older view that tumors are purely parasitic and non-functional no longer applies to a certain group of neoplasms, particularly those arising in endocrine structures such as the ovary, thyroid, adrenal, pancreas, parathyroid and pituitary. The exaggerated physiologic role of these tumors is best illustrated by the following examples. Parathyroid adenomas disturb the physiologic calcium metabolism as is evidenced by the high blood calcium level, nephrolithiasis and fibrocystic disease of the bones. The adenoma of the islands of Langerhans produce a syndrome of hyperinsulinism evidenced by hypoglycemia, fainting spells, personality changes and the like. The acidophilic pituitary adenomas secrete excessive quantities of anterior pituitary lobe growth-factor evidenced by acromegaly and gigantism. The basophilic pituitary adenomas are responsible for the remarkable syndrome in females of hypertension, hirsutism, amenorrhea, and painful adiposity first described by Cushing. Adrenal cortical adenomas, particularly in children, are attended

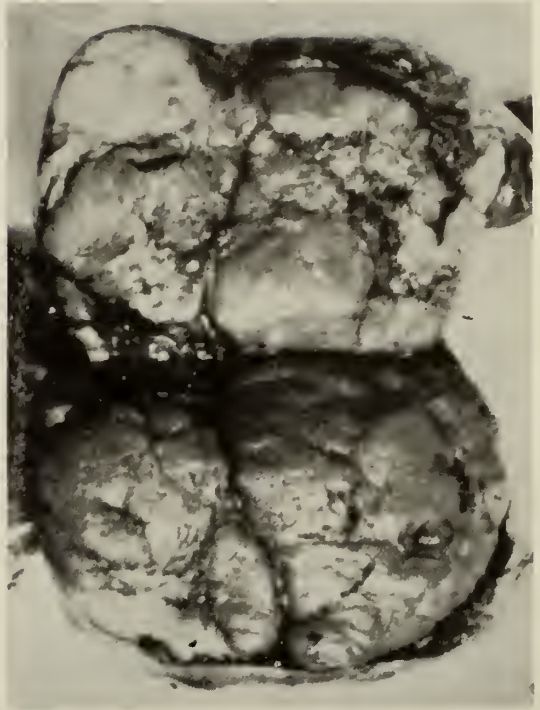


Fig. 1. Granulosa cell tumor removed from a woman long past the climacteric with sudden onset of pseudo-rhythmic bleeding.

by virilism in the female and sexual precocity in the male. Certain medullary tumors of the adrenal are associated with hypertension since the neoplastic cells continue to produce an overabundance of epinephrin. Many years ago von Eisberg described a remarkable and significant case of thyroid carcinoma. A few weeks after total extirpation of the neoplasm the patient became myxedematous. Several months later, coincident with the appearance of metastatic deposits in the liver, all evidence of myxedema disappeared. Such cases demonstrate that in certain growths, at least, Bard's dictum is correct that "neoplastic cells continue to produce their physiologic secretions."

Purpose, Source of Material and Classification

It is the purpose of this paper to draw attention to the interesting characteristics and tell-tale evidence of a group of physiologic neoplasms of the ovary. The cases studied in this series were for the greater part gleaned from the files of the Department of Pathology of the University of Georgia School of Medicine. A few of the rarer types were obtained from outside sources* The cases are divided into three categories according to the clinical

†From the University of Georgia School of Medicine.

*Read before the Medical Association of Georgia, Macon, May 14, 1937.

evidence they present, namely, effeminization, virilization or neutralization.

plastic edematous layers begin to shed. Fig. 3 shows a typical cystic hyperplastic endome-

CHART I.
Functional Tumors of the Ovary

| Group | Syndrome | Nomenclature | Physiologic Secretion |
|-------|--------------|-------------------------------------|---------------------------------------|
| I. | Effeminizing | 1 Granulosa cell tumors } | Folliculin |
| | | 2 Theca cell tumors } | |
| | | 3 Chorionepithelioma of the ovary } | |
| II. | Virilizing | 1 Arrhenoblastoma | Male sex hormone (?) |
| | | 2 Hypernephroma of the ovary | |
| III. | Neutralizing | 1 Disgerminoma | Neutral or lack of hormonal secretion |

*We wish to express our gratitude to Dr. J. E. Pritchard of Montreal for tissue from the chorionepithelioma of the ovary and to Dr. Wm. H. Rubovitz of Chicago for sections of the hypernephroma of the ovary.

Group I. Effeminizing Tumors.

The tumors to be considered in this group may be divided into: (a) granulosa cell tumors; (b) theca cell tumors and, with certain reservations, perhaps (c) primary chorionepitheliomas of the ovary.

(a) Granulosa cell tumors develop from relics of the normal mesenchymal core of the ovary. During embryogenesis of the ovary, parenchymal remnants which did not enter into any relation with the ovulum may be left behind. Years later due to some unspecific stimulus in these cells their inherent tendency to form female germ cords arises. Consequently without the guiding influence of the ovula an irregular tumor network develops. The morphologic vagaries of these neoplasms range from the immature fibromatoid on to the mature folliculoid type and different sections of the same tumor may show the various transitions. Fig. 2 is an example of the immature solid type attempting to form trabeculae. This type was previously considered a sarcoma. Fig. 4 is an example of a more mature type forming solid masses of follicles. This type was previously considered a carcinoma. Both produce the same symptoms and are but variants of the same neoplasm. These neoplasms affect the host by exaggerating certain aspects of the female physiology, for these tumors have an incretory function producing folliculin just as the ripe follicle does. Primary amenorrhea results because excessive quantities of folliculin inhibit the maturation of other follicles and hence prevent ovulation. On the other hand, since folliculin stimulates the growth of the endometrium, irregular hemorrhages from the enlarged capillaries may occur when the hyper-

trium which is characteristic of excessive folliculin stimulation. This is from an elderly woman long past her menopause who commenced bleeding again because of a granulosa cell tumor.

Granulosa cell tumors are primarily benign and usually unilateral. They occasionally grow to the tremendous size of fibromas or of pseudomucinous papillary carcinomas of the ovary but frequently are very small. Grossly they are generally spherical and smooth and on section present an appearance that varies from a firm to a soft homogeneous, yellowish but solid surface (Fig. 1).

The incidence of these growths clearly divides them into three groups for they are seen in:

(1) Pre-adolescent girls in whom precocious puberty is produced as is evidenced by enlargement of the breasts, growth of pubic hair and maturation of the genitalia. Not infrequently pseudomenstruation occurs.

(2) Adult women in whom the symptoms of excessive production of estrogenic substances are evidenced by periods of amenorrhea and irregular bleeding, enlarged uterus and hyperplastic endometrium.

(3) Post-climacteric women in whom production of folliculin produces a sense of rejuvenation and the uterus instead of being senile and atrophic, enlarges. The endometrium becomes hyperplastic and metrorrhagia takes place, sometimes in a somewhat rhythmic manner.

To emphasize the tell-tale evidences presented by this group of tumors, two cases are briefly presented. These have been selected from the seven definitely proved cases now in the files of the Department of Pathology of the University of Georgia. Three of these occurred in adult women and three were in women past the menopause.

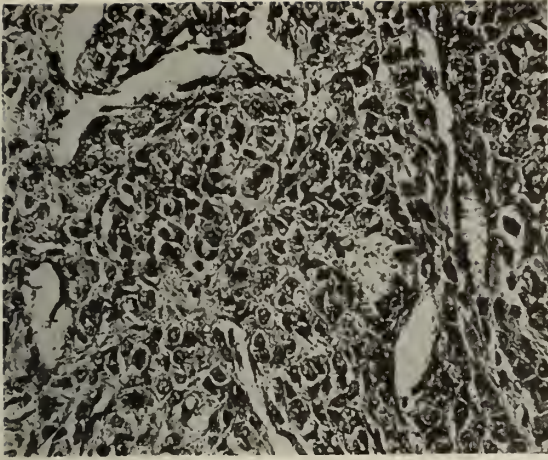


Fig. 2. Photomicrograph from tumor shown in Fig. 1. This is an example of the immature solid type of granulosa cell arrangement.

Case 1. A married colored female, para one, aged 34, was admitted to the University Hospital. She gave a history of experiencing fullness in the lower abdomen for five months, and had some abdominal pain for five weeks. Her menstrual history was significant; onset at thirteen, regular, normal five day flow every twenty-eight days, painless. Three years ago, irregularity suddenly set in, the menses became scanty appearing every few months and finally ceasing altogether. Three weeks before admission she began to bleed continuously. At operation a solid ovarian tumor and a large boggy uterus one and a half times normal size were found. Microscopic study of the ovarian tumor revealed a typical granulosa cell tumor. The history of amenorrhea, then metorrhagia and the enlarged, soft uterus were the evidences of increased estrin secretion.

Case 2. A colored female, married twenty-three years, para ten, aged 55, was admitted to the University Hospital in 1919. Menopause had been present for four years. A rhythmic recurrence of menses was noted during May, June and July, then she bled more or less continuously from August to November when she submitted to laparotomy. At operation a large solid tumor of the ovary was removed. The central portion had undergone degeneration and cavitation. Reexamination of histologic sections revealed a typical granulosa cell tumor (Fig. 4). The history of pseudo-cyclic menstruation and metorrhagia four years after menopause without any disease in the uterus to account for it typifies granulosa cell tumor in the post-climacteric period.

(b) Theca cell tumors were recently described for the first time as xanthofibroma theca cellulare by Löffler and Priesel. As the term suggests it is a fibromatous tumor rich in lipoids and originating from theca cells. Grossly these tumors resemble granulosa cell tumors and, since these produce excessive quantities of estrogenic substances, give the same symptomatology clinically. Greenhill and Greenblatt have in the process of publication a paper on the status of the thecoma and its relationship to granulosa cell tumors.

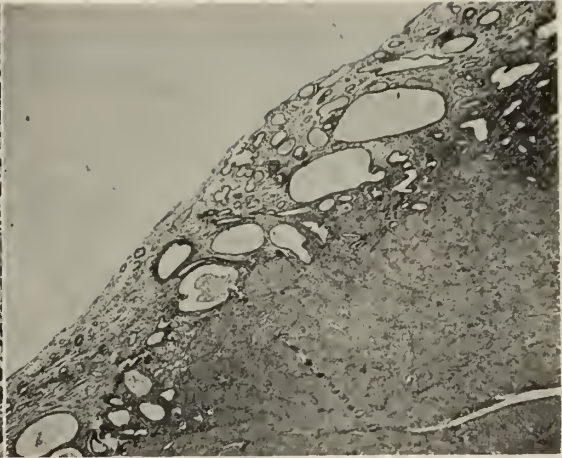


Fig. 3. Typical hyperplastic endometrium produced by excessive folliculin stimulation from a case of granulosa cell tumor in the post climacteric period.



Fig. 4. Photomicrograph of the solid folliculoid type of granulosa cell tumor arrangement.

(c) Chorionepithelioma of the ovary is indeed rare but its possibility should not be overlooked. It is analogous to the chorionepitheliomas of the testicle and hence is in no way related to uterine chorionepithelioma except for its morphologic similarity. These tumors are unilateral, grayish in color, and on section appear bluish and spongy. DeZalka in 1928 reviewed twenty-five cases from the literature. In the group without a previous history of pregnancy the ages varied from nine years to twenty-six years. (Fig. 5 is a section from a primary chorionepitheliomas of the ovary in a virgin girl of seventeen, showing the typical Langhans' and syncytial cells. An extract of the tissue removed gave a marked Aschheim-Zondek re-

action.) Uterine as well as ectopic chorionepitheliomas produce large quantities of prolan and the Aschheim-Zondek test will tell the tale if performed on suspected cases.

Group II. Virilizing Tumors

The term "virilizing" when it pertains to the female denotes those influences which change the secondary sex characters toward masculinity. The essential tell-tale evidences which infer that the female in question harbors a virilizing tumor are: (1) hirsutism, (2) deep (male) voice, and (3) enlarged clitoris which resembles a hypospadiac penis. Any two of these three signs plus amenorrhea are necessary to establish true masculinization.

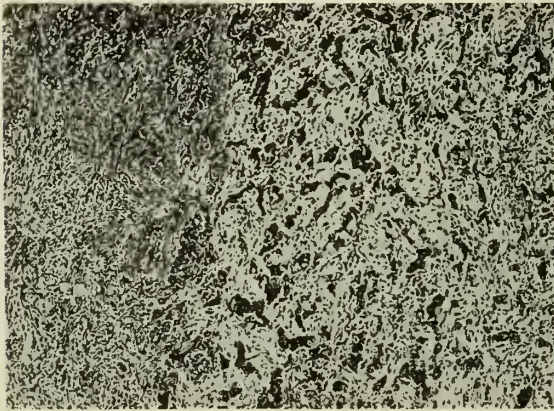


Fig. 6. Arrhenoblastoma in a middle-aged woman presenting the typical masculinizing syndrome. Note the immature testicular cords similar to that seen in a fetal testis.

The tumors of the ovary capable of producing these changes are (a) the arrhenoblastoma and (b) the hypernephroma of the ovary.

(a) The arrhenoblastoma of the ovary is a benign unilateral neoplasm. The tumor develops from embryonic tests of mesenchymal cells with the inherent tendency to develop as a male gonad. When these remnants proliferate the fetal testis is imitated. The cells have a tendency to form germinal cords but without spermatogonia. Fig. 6 from a section of arrhenoblastoma shows the immature attempt at cord-like formation. Grossly the neoplasm resembles the granulosa cell tumor.)

(b) The hypernephromas of the ovary are exceedingly rare. They are usually unilateral and malignant. They develop from suprarenal rests in the ovary. These tumors have been described as luteomas because of the resemblance of the tumor cells to lutein cells. There is a tendency to regard them as excessively luteinized granulosa cells and this interpretation may be correct. However, his-

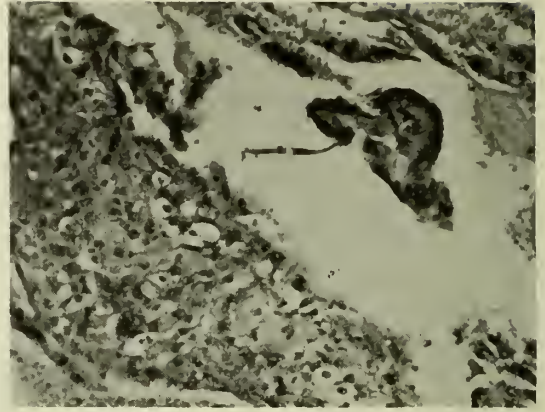


Fig. 5. Primary chorionepithelioma of the ovary in a virgin girl aged 17. Note the dark staining syncytial masses of cells (upper right) and the pale staining Langhans cells (lower left).

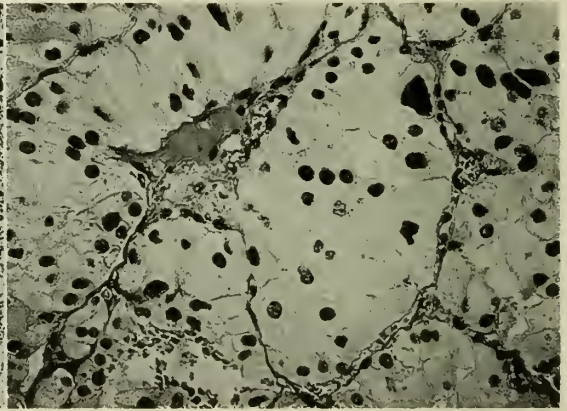


Fig. 7. Primary hypernephroma of the ovary. Note the large pale foamy cells and the endocrine-like arrangement of the tumor cells.

tologically the cells resemble those of the suprarenal cortex with small nucleus and abundant clear cytoplasm. Moreover from the biologic viewpoint they behave like cortical adenomas of the suprarenal which also are masculinizing tumors. Grossly, these tumors appear as smooth, lobulated tumors, buttery in color, of variable size and of soft consistency. (Fig. 7 is from a section of a so-called hypernephroma of the ovary, demonstrating the endocrine-like arrangement of the large foamy clear cells.)

As pointed out the tell-tale evidence of these virilizing tumors of the ovary are change of voice, hirsutism and hypertrophy of the clitoris. Removal of the tumor permits the signs of masculinization to subside except for the voice changes which are permanent. It must be mentioned that a small percentage of women with these tumors do not exhibit masculine characteristics. These changes occur only in those patients in whom the potentialities are present, due to remnants of a



Fig. 8. Bilateral disgerminoma tumors removed from a girl of 21 years of age with an infantile uterus. Note the size (scale is in inches) and the lobulated appearance of the tumors. Cut section presents a soft brain-like tissue appearance.

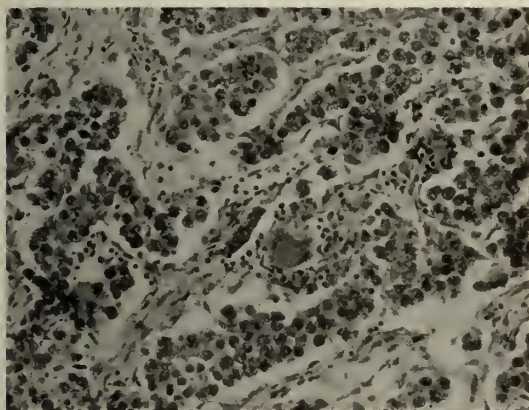


Fig. 9. Photomicrograph from disgerminoma shown in Fig. 8. Note the alveolar arrangement of the cells with large vesicular nuclei and pale cytoplasm. Note the lymphocytic infiltration of the loose stroma. Giant cells are occasionally observed in such tumors.

primary bisexual analage which persists for the greater part in most women.

Group III. Neutralizing Tumors.

The disgerminoma of the ovary is probably the most common of the group under discussion. The tumor is frequently bilateral. The unilateral ones are considered benign although Greenblatt and Pund have recently published a series of cases in which several of the unilateral ones proved malignant. These growths have been classified in the past as seminomas of the ovary.

These tumors arise in embryonic rests of the ovary from mesenchymal cells which were misplaced before differentiation along the male or female direction occurred, hence neuter cells. Accordingly neoplasms arising from these rests have no hormonal action upon the host. However, frequently a depressing or neutralizing influence is observed and, when

present, such tell-tale evidence as genital hypoplasia, asthenia, and infantilism bespeak of a disgerminoma, particularly when occurring in young girls.

These growths occur mostly in young girls from eleven to twenty-one years of age. Grossly, they are massive lobulated neoplasms with smooth surfaces and soft consistency. (Fig. 8.) On section they present a brain-like tissue in appearance. Microscopically, discrete cells with a small hyperchromatic nucleus and moderately pale cytoplasm, arranged in alveoli or in cords, are seen supported by a loose edematous stroma. Connective tissue septums infiltrated with lymphocytes and occasional giant cells in pseudo-tubercles are present. (Fig. 9 is a typical histologic picture showing the characteristic cellular arrangement.)

Summary

Attention has been focused on a group of tumors of the ovary which because of their incretory functions yield definite tell-tale evidence. This evidence, if evaluated in the light of the present day conception of functional neoplasms, permits their preoperative diagnosis.

DISCUSSION ON PAPER OF DR. CHANEY AND DR. GREENBLATT

Dr. W. L. Pomeroy (Waycross). It is indeed a privilege to hear and discuss a paper as timely and suggestive as Dr. Chaney's. With the definite increase in neoplastic growths or possibly the more able diagnosis of neoplastic growths, a paper on these more or less uncommon tumors of the ovary is particularly thought-provoking at this time.

I feel that too many of us think of neoplastic growths as just a tumor, either benign or malignant, which if diagnosed early enough may be removed and our patient will get well. As Dr. Chaney has so ably brought out, we must remember that some tumors or growths, through their increased or diminished secretions, produce certain changes in the mechanism of the body that will lead to an earlier and more positive diagnosis, therefore affording our patients a more certain chance of recovery.

This paper should also remind us to be more careful in our check-up on female patients during the period of adolescence and the menopause. Any abnormal amount of bleeding should be investigated thoroughly and should not be passed up as just the beginning or ending of a woman's menstrual life. In my opinion, the diagnosis of hyperplastic endometritis with the abnormal menses as described by Dr. Chaney is definite indication for a laparotomy.

I should like to close my discussion of this paper with one question. If some of these various tumors produce an over amount of folliculin or prolan, might not the injudicious giving of either the ovarian or

pituitary sex hormones increase the growth of the tumor?

I wish to take this opportunity to again thank Dr. Chaney for his very able paper.

Dr. Ralph H. Chaney (Augusta): In presenting this paper I had to cut out clinical reports of our cases that are presented in the paper itself, giving the definite symptomatology associated with the condition. In a number of the instances, you can find a measure by preoperative study, you can measure the amount of hormone actually produced, and in some instances the condition suggests whether to bring out and almost define what the tumor is.

In regard to the utilization of hormone in these conditions, I have had no personal experience at all, because the group of cases is not large enough that we have seen ourselves, but in asking Dr. Schiller of Vienna, when he was here a month or so ago, we asked him distinctly that question, and he said that in their experience they had seen the folliculin forming tumors reach enormous size. He said anyone using folliculin hormone in these disturbances should at intervals—he mentioned three to four months—examine that patient to see whether she was not under the influence of the hormone, developing an abnormal sign.

The Chemical Laboratory of the American Medical Association (*Journal A. M. A.*, Nov. 20, 1937), brings the report on the Elixir of Sulfanilamide-Massengill up to November 11, at which time seventy-three deaths have been reported. The additional deaths reported are not recent but have only recently been reported as having followed the administration of Elixir of Sulfanilamide-Massengill. That no recent deaths have occurred shows the effect of the wide publicity initiated by THE JOURNAL and the excellent work of the government in removing the product from the market. In reports appearing in the newspapers and elsewhere there has been considerable confusion; many of the deaths have been attributed to sulfanilamide, which was not the causative factor. The diethylene glycol used in the solvent was the harmful agent. For the information of physicians a chart is reproduced which makes reference to sulfanilamide and its related compounds. Another chart shows the structural interrelation between ethylene glycol, diethylene glycol and dioxane. Only diethylene glycol was found in the Elixir of Sulfanilamide-Massengill.

Until relatively recently, the terminology employed in each new nomenclature has represented a personal and individual choice. The system of the Standard Classified Nomenclature of Disease is the result of an effort to remedy the existing confusion. In addition to the Commonwealth Fund much credit is due to Dr. H. B. Logie, the executive secretary of the National Conference until the work was taken over by the American Medical Association (*Journal A. M. A.*, Feb. 12, 1938). The Standard Classified Nomenclature of Disease was prepared according to a dual method of classification (anatomic and etiologic) and proposes to include every disease clinically recognizable. It aims also to avoid repetition and overlapping and to classify disease in a logical manner. Secondary diagnoses can be coded in a manner exactly similar to the primary. The installation of the system requires little expense or difficulty in addition to the purchase of the Standard Classified Nomenclature of Disease.

PRELIMINARY REPORT OF OBSTETRIC DEVICE*

RICHARD TORPIN, M.D.

Augusta

This is the first report of an investigative work as presented before the Richmond County Medical Society December 16, 1937, concerning a suction cap device for the purpose of delivery, or rotation and delivery, of the fetal head at labor. Beginning with the work of J. Y. Simpson of about 1848 the history of previous efforts of such work was briefly reviewed.

The device presented and illustrated in Fig. 1 is essentially a somewhat flexible rubber concave hemisphere of a size to fit the fetal vertex rather snugly. In the center of the convex surface is a one-finger handle and adjacent toward one end is a hollow rubber tube leading from the vacuum pump and opening onto the concave surface. In addition, on the convex surface are two lugs for rotating.

So far the description is quite similar to those experimented with in the past. Unlike those, however, in this device the concave surface is studded with rubber projections about $\frac{1}{4}$ inch in diameter, about $\frac{1}{4}$ inch apart and varying from about $\frac{1}{8}$ to $\frac{1}{4}$ inch in elevation. The purpose of these is to keep the fetal scalp from blocking the small opening leading to the vacuum pump and thereby presenting as great an area as possible to the suction, inasmuch as the amount of effective pressure (or conversely negative pressure) increases in direct proportion to the increase in area. Several sizes are contemplated.

Method of Use

The indications and conditions are identical with those in application of obstetrical forceps. If the head presents as occiput posterior (the patient being anesthetized and the vagina dilated by hand) the cap, folded from side to side, is inserted into the vagina with the connecting tube posteriorly. Underneath the fetal head it is readily unfolded and with negative pressure of 3 inches of mercury it adjusts itself to the vertex. The negative pressure is then increased by the vacuum pump to 17 inches of mercury which firmly

*From the Department of Obstetrics and Gynecology of the University of Georgia School of Medicine, Augusta.

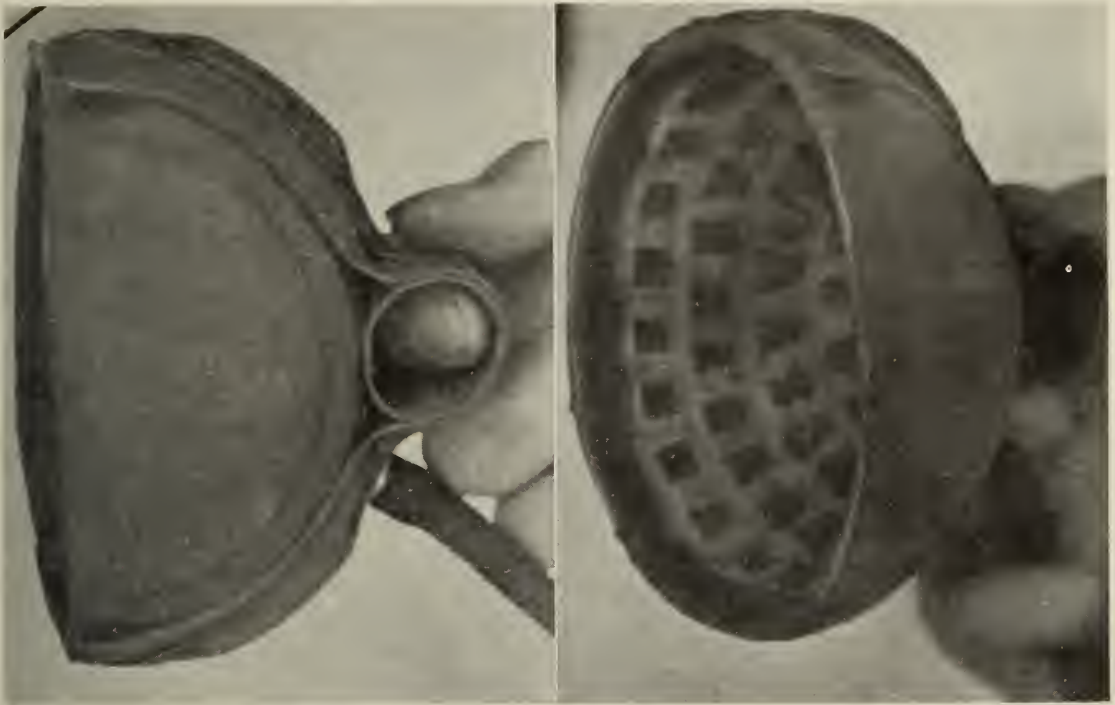


Fig. 1. Two photographs of the device, one taken laterally and the other taken in such manner as to show some of the lugs upon the inner surface.

attaches the cup to the scalp of the vertex over an area of many square inches. It also prevents lateral or antero-posterior compression of the skull bones since the head fits the fixed concavity. Usually with one twist of the cap while grasping the external lugs the head is rotated to an occiput anterior presentation. A 2-minute rest with the negative pressure at 3 inches of mercury is then allowed. Thereafter, or at the onset of a labor pain, suction is again applied by pump to 17 inches of mercury and 40-pound pull is exerted upon the ring handle. Lubrication by sterile liquid soap is of value. This pull is maintained constantly for one minute (or if she is having regular pains, for the duration of the pain). The direction of traction corresponds to the station of the head in the birth canal. Following this another 2-minute rest period as above is given and then the 1-minute pull at 17 inches of mercury is repeated and so on alternating traction with rest until delivery of the head. Mesial episiotomy operation has been done in most primiparas.

In case of the original presentation of occiput anterior the cap is inserted with the connecting tube anterior and rotation is unnecessary. Incidentally, those originally occiput anterior have required more traction than those originally occiput posterior.

Results of Use

Among about 600 deliveries on the staff service of the University Hospital there have been about 20 patients who have been unable to deliver spontaneously within 3 hours after full cervical dilatation. Ten of these latter were delivered by this method. Most of them were colored primiparas and several were with occiput posterior presentation.

The large majority were successful in spite of the fact that improvements were being made in the structural design of the device throughout the series which extended over nearly a year. There were no maternal injuries or infections. All children alive at the onset of operation were delivered and left the hospital well.

None had evidence of brain hemorrhage. None had scalp injury. One developed a cephalhematoma over the left parital bone. This was mid-pelvis in a white primipara, occiput anterior, and required 8 pulls of 1-minute each at 2-minute intervals and the hematoma was without doubt due to collapse of a cap which should have been more rigid. All of the others, primiparas included, were delivered with 4 pulls or less. There was one obese colored primipara sixteen years old in eclampsia with 3 series of convulsions. She had been in labor 59 hours, membranes had

been ruptured 11 hours, full dilation of cervix for at least 4 hours, and with right occiput posterior presentation. By the suction cap method the fetal head was easily rotated and delivered. The child was pallid and was resuscitated with some difficulty but both mother and child went home on the 7th day in good condition.

Minute details of each delivery have been recorded at the time of operation and are available for publication.

PSYCHIATRY

HERVEY CLECKLEY, M.D.

Augusta

The popular favor now enjoyed by psychiatry brings into vivid contrast its status prior to the World War. At that time the efforts of its practitioners were largely confined to what were known as *asylums* and consisted in elaborate and meticulous descriptive studies made with an aim of placing patients in one or another of the classifications available for *lunatics*.

This so-called madness with which psychiatry dealt was no longer regarded as the manifestation of an indwelling fiend or, as Heinroth quaintly maintained early in the 19th Century, a heaven-sent punishment for the patient's sins.¹ It was, however, generally believed to be the result of a hereditary taint, of some insidious depravity that "ran in the family," and the relatives of a person mentally ill winced at admitting the connection, speaking in sepulchral whispers, if at all, about the situation which they regarded somehow as disgraceful to all concerned.

Long considered the subject of static description or of verbose wrangles at the tweedle-dum and tweedle-dee level between *alienists* and lawyers, the mental patient at last came under the observation of men who would not rest content with fruitless explanatory phrases such as the familiar *hereditary taint* or even the far more promising but yet inadequate *lowered psychic tension*.² Zealous studies were now made to understand why the mental patient behaved as he did, to discover behind the sphinx-like riddle of delusion, apathy, grotesque gesticulation or apparent perversity, some purpose which

would give meaning to what had been regarded as meaningless.

First, in the lesser mental disorders, then in the psychoses themselves, a hint at least of this meaning was revealed. The psychiatric patient was found to be motivated by basic drives common to all mankind. His grandiose or bizarre beliefs, so inconsistent with demonstrable fact (as in the self-acclaimed emperor who cheerfully sweeps the floors daily and pounces on a discarded cigarette butt), were seen to spring from the same wishful thinking whence come the prejudices familiar in all our acquaintances, and equally familiar to them in ourselves. The hallucinatory voices, so vividly described as to seem at first convincingly magical, took on new interest when recognized as arising within the patient's own mind but from sources undiscernible to him and at the instigation of forces which, though part of him, were unrecognized and unfelt. The very irrationality of him who had been known as the lunatic and set apart from humanity lost its aspect of unpromising chaos and stood as a challenge to medicine once its kinship was established with the every day casuistry by which the intelligent and truthful man on the streets, or in the high places of this world, uses reason to conceal his own motives from himself.³

Then came the World War. Psychiatry along with her sister medical specialties, who had heretofore all but disowned the tie, took to the battle fields. Kindled with a new hopefulness from the recent dynamic conception of mental disorders, psychiatry found outside those segregating walls, which had so long shut it off from the world with the abandoned and all but alienated it from medicine, ample material to work with and emerged, as Menninger said eight years ago, a true Cinderella who outshone all her proud sisters in popular favor.⁴

There is no doubt that this popular favor is not an unmixed blessing. Psychiatry lays no claim to the miraculous cures sometimes expected of it by the public. Various cults of mental healing continually arise to confuse the honest issues with boasts of stimulating by psychotherapy the diabetic pancreas to secrete more insulin⁵ or of remaking the human soul by a few deft manipulations of the id. Even today an honest psychiatrist is

occasionally hailed with enthusiasm as blood-brother to the crystal-gazer by citizens who admire the latter.

But whatever may be said concerning certain phases of psychiatry's general popularity, only the most sincere enthusiasm can be felt for psychiatry's welcome as an integral and indispensable part of medicine. The steadily growing interest in psychiatric teaching by leading medical schools throughout the country promises well not only for the speciality but for medicine.⁶

Despite medicine's rapid advance on many fronts judicious observers have marked the loss of some almost intangible but priceless attribute in the scientific specialist of today which characterized the great doctor of earlier times.⁷

What is this quality so important for the practice of medicine? Can it be more or less than a primary concern with the patient as a complete human being, as a total personality, a man or woman striving, thinking and feeling, rather than a mere collection of organs, one or more of which may be diseased?

Psychiatry today defines its field not in vague terms of abstraction such as mind or will or emotion but as the total reaction of the human being, subjectively and objectively, in his efforts to live effectively and happily. This viewpoint, a psychobiologic rather than a purely psychologic, is one in which psychiatry and general medicine can find common ground.

In this common ground rather than in psychiatry considered purely as a specialty lies the promise of psychiatric teachings in medical schools. The aim of the psychiatric department is not merely to give the future psychiatrist as good a start as possible but, perhaps chiefly, to keep all students from losing interest in what Draper has so aptly called *the common denominator* of disease.⁸ If the future laryngologist, the obstetrician, the allergist and, above all, the pediatrician carries to his work an abiding interest in human personalities and a sound fundamental knowledge of psychopathology which will enable him always to consider earnestly in his plan of treatment not only the bad tonsils, the pregnancy, the hay fever or the cause of mumps but also the patient who has the condition, the additional time given to psy-

chiatry in the medical curriculum will not have been given in vain.

Of all patients who come for treatment to the general practitioner from 20 to 50 per cent are primarily psychiatric problems.^{9,10} Whether he likes it or not he must deal with them in some way. He cannot send all to the psychiatrist; there are not enough psychiatrists available. Good undergraduate training may not enable the general practitioner to cure all these patients but it will enable him to study them with interest, to help many and, above all, to avoid mistreating them by useless operations, fancy diets or extensive medications which confirm their patterns of maladjustment and strengthen the neurosis rather than the man.

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From 1903 to 1916 the AMERICAN MEDICAL ASSOCIATION presented annual summaries of injuries resulting from the celebration of the Fourth of July. In recent years a considerable increase in the number of injuries has occurred. This year (*Journal A. M. A.*, Nov. 27, 1937), there were twenty deaths reported as due to the celebration of the Fourth of July with fireworks or firearms. Burns from fireworks resulted in the death of seven youngsters, gunshots were responsible for the death of four boys, two men were drowned after their boat had been wrecked by an exploding firecracker, a toy cannon explosion killed a man, and a fire caused by explosion of a display of fireworks in a store caused the death of six women and girls. Only two cases of tetanus were reported this year. The total number of injuries recorded for this Fourth of July celebration numbered 7,205. Obviously this figure errs on the side of underestimation. Thus, although 4,292 questionnaires were sent out to hospitals requesting them to list the Fourth of July injuries treated, only 2,463 were returned. In addition, doubtless more injuries were treated in first aid stations or by physicians in their offices than were treated in hospitals. The total number of injuries, therefore, was probably far in excess of those which were actually recorded. In addition to the deaths and cases of tetanus, newspaper clippings and hospital questionnaires recorded a considerable number of persons, mostly children, so seriously injured that they will bear the scars of their experience for the rest of their days.

THE JOURNAL

OF THE

MEDICAL ASSOCIATION OF GEORGIA

Devoted to the Welfare of the Medical Association of Georgia

478 Peachtree Street, N. E., Atlanta, Ga.

MARCH, 1938

WELCOME TO AUGUSTA

The city of Augusta always esteems it a privilege to entertain THE MEDICAL ASSOCIATION OF GEORGIA, but this year it is looking forward to the convention with more than the usual keenness of anticipation.

Better accommodations have been devised for the convention than ever before, in that the Forest Hills Hotel situated in its own beautiful park in the suburbs of Augusta has been selected as headquarters and as a result the members of the Association will not be disturbed by inadequate parking space, noise, heavy traffic, and crowding, such as has been the case in the past when the meetings were held in a down-town hotel. There will be ample room for our guests and adequate meeting quarters, and facilities for all outdoor sports at the very doors of the hotel.

By reason of the fact that Augusta hospital facilities are all concentrated in the University Hospital, and the Wilhenford Hospital which adjoins it, the profession of Augusta is more closely knit than could be the case in any community where various groups of local physicians are affiliated with different hospitals far apart from one another and in a sense competitive. Practically the entire medical profession of Augusta is in one way or another connected with the teaching staff of the School of Medicine of the University of Georgia, are on the Staff of the University Hospital, or at work in its polyclinic and outpatient departments. And, as a result of this solidarity, much progress has been made in these institutions, which the local profession is most anxious to show and to explain to the visiting members of the State Medical Association. Many of the members of the Association are alumni of this institution and for them the occasion takes on all of the aspects of a home-coming week where they will have an opportunity to meet their old classmates and their old teachers and renew the ties which were formed in days gone by. The pro-

fession of the State of Georgia is aware of the difficulties under which this institution has labored in the past: inadequate support from the State, discouragement in high educational circles, with misunderstandings abroad and sabotage at home.

How triumphantly the Medical School has emerged from all of this and how confidently it faces a period of greater usefulness to the profession and to the people of Georgia, they perhaps do not fully appreciate, and the faculty of the Medical School and the Board of Trustees of the University Hospital are most eager for their confreres throughout the State to see for themselves just what is being done. In addition to this, the local profession desires to have the opportunity to make it clear how thoroughly they appreciate the loyal and invaluable support which was given not only by our own alumni but by the profession throughout the State at the times when the institution was most in need of such assistance.

Many of our citizens recall most happily the boys who were here as students of medicine twenty and thirty years ago, and although they have left the fields of their academic endeavor and are now serving in every corner of the State, they are still our boys and will be welcomed in Augusta as such. Perhaps in spite of the lapse of years there may be for many tender ties and associations which link them with the Augusta of yesteryear, and there is a happiness in renewing such ties and associations although the glamorous girls of long ago may now be sedate grandmothers or at least mature matrons with their own hostages to fortune clustering around them. But it may be safely assumed that the coming of the Association will bring a particular gratification to many of the homes in the community. The scientific program has been carefully worked out and speaks for itself, promising to be of unusual interest and value.

The convention comes at a time when Augusta is in its best and most beautiful guise, in the height of Springtime. The early mornings are filled with a chorus of bird song, the trees will have put on their April greenery and the gardens will be a riot of roses. So, the University, the City Government, the local profession, and the citizens of Augusta

unite in welcoming the Association to our city, trusting that the attendance will be larger than ever and looking forward to the renewal of old ties and to the formation of new friendships and to the storing up for ourselves of pleasant memories for the days to come.

EUGENE E. MURPHEY, M.D.

WHY A BASIC SCIENCE LAW?

When our motor car gets out of order we engage the services of a mechanic whom we believe is able to make the necessary repairs or adjustments. In order for him to be able to do so he must be acquainted with the motors' structure as well as what is required of the whole mechanism. In acquiring this knowledge he necessarily becomes acquainted with other physical laws which govern a gasoline engine. It is true that at times, and in emergencies, an expert mechanic is not available and we call upon anyone to aid us to reach our destination. Sometimes such an individual is very helpful but as soon as possible we wish the expert to tell us whether or not everything is as it should be.

When the human frame gets out of order we are dealing with a far more complex structure than any yet devised by man, and the best of our profession is ignorant of many things about the anatomy and functions of our bodies we would like so much to know and are continually striving to fathom.

Common sense dictates that anyone who aspires to practice the healing art, of no matter what school, should first desire to be well-grounded in those essential and fundamental branches of learning which are the very foundation of medical knowledge: anatomy, physiology, pathology, bacteriology, chemistry and physics. One of the greatest teachers it was ever my good fortune to have, the late Dr. William H. Doughty, Jr., told our class: "A celebrated symphony orchestra came to Augusta, and I was much taken with the artistry of the flute player. After the concert I talked with the conductor and was told that the flute player practiced his scales for seven years without once playing a tune, but at the end of that time he had played all the music there was to play, and that nothing in music was new to him." Dr. Doughty then

said to us, "Your scales are: anatomy, physiology, pathology, bacteriology, chemistry and physics."

The healing art has been defined as "any system, treatment, operation, diagnosis, prescription, or practice for the ascertainment, care, relief, palliation, adjustment, or correction of any human disease, ailment, deformity, injury, or unhealthy or abnormal physical or mental condition." As a means of regulating such, the legislatures of the several states, in the exercise of their police power, enacted medical practice acts, prescribing qualifications to be possessed by those who desired to treat the sick. As medical schools in this country gradually developed higher standards, and the need for the protection of the public became more evident, the requirements for matriculation and graduation of would-be practitioners became more stringent. Certain groups of healers demanded they be granted special privileges, apart from the graduates of recognized medical schools. These demands were based upon theories of healing that did not require the same degree of proficiency in medicine as that prescribed by medical schools and medical practice acts—an unproved claim, without scientific or scholarly substantiation, and an overt admission. The truth is these groups were unable to meet existing requirements and, in order for them to practice legally, were seeking to lower standards. As a consequence many of our states have legalized examining boards for these special groups, making it possible for them to treat the sick. Such laws require just sufficient erudition to give the impression that the public is protected, and low enough that any difficulty in meeting the requirements is non-existent. Thus there has arisen the absurd systems of licensure for treating the ill, designed to meet the mental capacity of the candidates for such rather than the protection of the public and its health, the latter being the only plea and justification for a basic science law.

The following states, and the District of Columbia, have basic science laws: Arizona, Arkansas, Colorado, Connecticut, Michigan, Minnesota, Nebraska, Oklahoma, Oregon, Wisconsin and Washington. In no case in which the merits of the legislation were involved has a state Supreme Court invalidated

the act. The object of the law as applied to Minnesota is so well expressed by the Supreme Court of that state that it is here quoted:

An object of the basic science law is to require of all healers, other than those expressly excepted, such general knowledge of science in application to human anatomy as measurably to insure some diagnostic skill and, in consequence, some degree of dependability in result and some amount of directive knowledge for the ensuing treatment. . . . The law does not ban naturopathy. *It does regulate it.* (Italics supplied.) We are not interested in the extent to which the medical profession may have sponsored the law, nor their motives in doing so. It is enough that, since the days of Hippocrates through those of Galen, Vesalius, and their modern successor anatomists, there has been great progress and splendid accomplishment in their science and the related arts of diagnosis and treatment. Lawmakers everywhere have taken note and have been doing so for a century or more. They began by laws facilitating the procuring of human bodies for dissection. Thereby doctors and their students were enabled to transfer their patronage from grave robbers, "body snatchers," to legitimate purveyors of cadavers. Other laws, regulatory and otherwise, followed. Finally came the restrictive regulation, through licensing, now familiar law everywhere. The basic science statute is the latest addition thereto. It departs somewhat from the older definition of the practice of medicine. Of its newer and broader category of the practice of healing, naturopaths have no complaint on constitutional grounds. . . . Nothing has been brought to our attention to enable us to override the legislative judgment either as to the reasonableness of its regulation or the classification of the basic sciences. *State ex rel Shenk v. State Board of Examiners in the Basic Sciences (Minn.)*, 250 N. W. 353.

In attempting to have such a law enacted in Georgia we should stress its value as a public health measure, educate the public, and especially the lawmakers, as to its desirability, insist that when, and if, enacted that it will be in the hands of an impartial, non-sectarian board, not one of whom practices the healing art; and that it will not be applicable to practitioners now licensed, no matter of what school of healing.

Three states, Michigan, Colorado and Oklahoma, enacted basic science laws during the past year, others will follow, and those practicing other than the medical profession must realize that those States not having the law will be overrun with refugees from the states that will in future enact such a measure. So, it would seem that it would be to the material interest of osteopaths and chiropractors now in Georgia to support the measure sponsored by THE MEDICAL ASSOCIA-

TION OF GEORGIA. The President of the Washington State Medical Association states: "The State Osteopathic Association is on record as having expressed approval of the law," and the chairman of the Committee on National Affairs of the American Osteopathic Association, in 1929, in discussing a basic science bill for Florida, said: "The basic science bill is the most difficult legislation that has ever confronted our profession for it appeals to disinterested minds and seems absolutely fair to all concerned. No telling arguments in opposition have as yet been procured."

Our members should not be disheartened by the repeated rebuffs met with in efforts to have such an enlightened piece of legislation enacted for Georgia. We must educate our people if we desire to stop the authors of such publications as "Tobacco Road" and "You Have Seen Their Faces." Your Association is endeavoring to accomplish this through its Bureau of Public Relations, which it should be the pride of every member to support.

GEORGE A. TRAYLOR, M.D., *President*

ACKNOWLEDGMENT

This issue of *The Journal* belongs to the medical profession of Augusta. To all physicians of that city, and to the contributors especially, the Editorial Staff expresses thanks for their assistance in recording the progress of civilization and medicine in that section of our commonwealth.

From time to time *The Journal* has published articles dealing with the medical history of Georgia. Material for the preparation of such papers is always difficult to obtain, but it is the hope of the officers and committees of the Association that further efforts will be made by our members to amplify the data already in hand. Frequently one has an old book, a letter or a scrap of paper which could be used to advantage by our Committee on Medical History in piecing together important facts. Needless to say, such information would be appreciated by the committee whose duty it is to write *A History of Medicine of Georgia*.

The National Society for the Prevention of Blindness quotes Dr. Alvah R. Lauer as follows: "Defective eyesight is an important contributing cause to automobile accidents."

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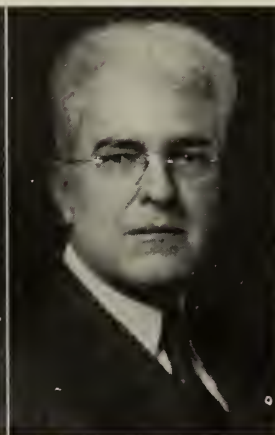
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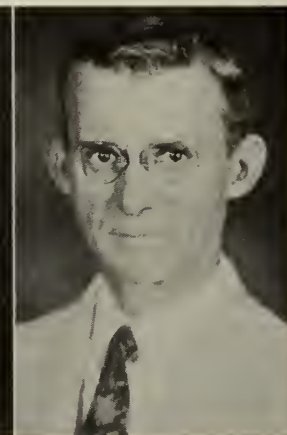
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Brunswick, Parliamentarian

The officers of the Medical Association of Georgia urge its members to attend the Eighty-Ninth Annual Session at the Forest Hills Hotel, Augusta, April 26, 27, 28, 29, 1938.

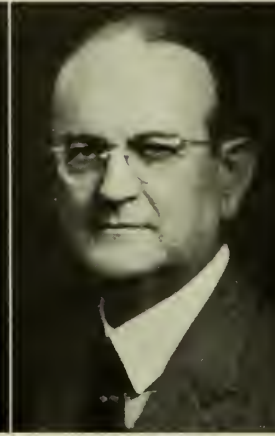
The House of Delegates will convene at 2:00 P. M. on Tuesday, April 26th. The scientific session will open on Wednesday at 9:00 A. M., April 27th.



WILLIAM H. MYERS, M.D.,
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CHAS. W. ROBERTS, M.D.,
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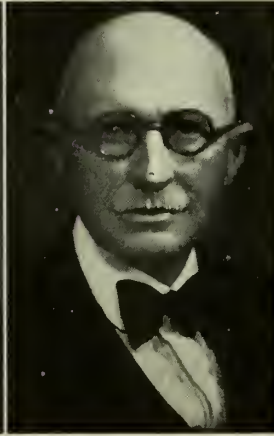
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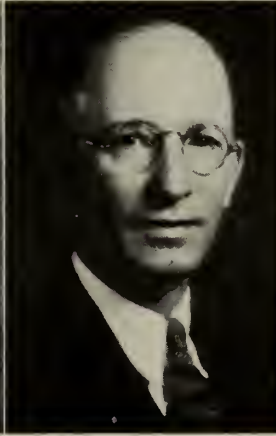
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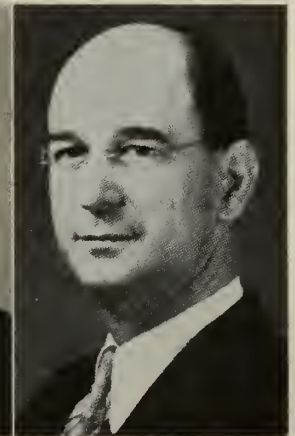
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H. L. ROWE, Social Circle
Executive Secretary and Business
Manager of The Journal

PROGRAM MEDICAL ASSOCIATION OF GEORGIA OFFICERS AND COMMITTEES 1937-1938

EIGHTY-NINTH ANNUAL SESSION, AUGUSTA
APRIL 26, 27, 28, 29, 1938
FOREST HILLS HOTEL, Headquarters

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*This Committee is subject to the call of the Chairman of the Committee on Medical Economics.

†Deceased.

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| E. L. Bishop | Atlanta |
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| | |
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Scientific Exhibit

| | |
|-------------------------------------|------------------|
| Mark S. Dougherty, General Chairman | Atlanta |
| Roy R. Kracke, Co-Chairman | Emory University |
| Lee H. Mettler, Local Chairman | Augusta |
| Lee Howard | Savannah |
| Everett L. Bishop | Atlanta |
| J. L. Campbell | Atlanta |
| W. L. Pomeroy | Waycross |
| Wm. P. Harbin, Jr. | Rome |
| Wm. F. Jenkins | Columbus |
| J. A. Redfearn | Albany |
| T. F. Sellers | Atlanta |
| Ernest F. Wahl | Thomasville |

*Prize for Hookworm Control**

| | |
|------------------------|-------------|
| W. F. Reavis, Chairman | Waycross |
| E. F. Wahl | Thomasville |
| H. M. Tolleson | Eastman |

*Award by the Ware County Medical Society.

Study of Maternal Mortality and Infant Deaths

| | |
|-------------------------------|----------|
| H. F. Sharpley, Jr., Chairman | Savannah |
|-------------------------------|----------|

First District

| | |
|--------------|------------|
| A. J. Mooney | Statesboro |
| A. J. Waring | Savannah |

Second District

| | |
|-----------------|-------------|
| W. L. Wilkinson | Bainbridge |
| W. W. Jarrell | Thomasville |

Third District

| | |
|-------------------|----------|
| Herschel A. Smith | Americus |
| F. B. Schley | Columbus |

Fourth District

| | |
|----------------|----------|
| H. J. Copeland | Griffin |
| Emory R. Park | LaGrange |

Fifth District

| | |
|--------------|---------|
| E. D. Colvin | Atlanta |
| J. R. McCord | Atlanta |

Sixth District

| | |
|------------------|----------|
| Otis R. Thompson | Macon |
| T. C. Clodfelter | Eatonton |

Seventh District

| | |
|----------------|-----------|
| P. O. Chaudron | Cedartown |
| W. Mayes Gober | Marietta |

Eighth District

| | |
|------------------|-----------|
| M. E. Winchester | Brunswick |
| C. M. Stephens | Waycross |

Ninth District

| | |
|----------------|-------------|
| Pratt Cheek | Gainesville |
| Geo. C. Brooke | Canton |

Tenth District

| | |
|-----------------------|---------|
| S. S. Smith | Athens |
| John W. Thurmond, Jr. | Augusta |

ex officio

| | |
|----------------------------------------------------------------------|---------|
| T. F. Abercrombie, Director, Department of Public Health for Georgia | Atlanta |
|----------------------------------------------------------------------|---------|

Fraternal Delegate to the Georgia Dental Association

| | |
|--------------|---------|
| R. Hugh Wood | Atlanta |
|--------------|---------|

Fraternal Delegate to the Georgia Pharmaceutical Association

| | |
|--------------------|---------|
| Glenville Giddings | Atlanta |
|--------------------|---------|

Fraternal Delegates to Other State Meetings

| |
|-------------------------------------------------------------------------|
| TO VISIT ALABAMA: Wallace H. Clark, La-Grange; Steve P. Kenyon, Dawson. |
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| TO VISIT FLORIDA: Wm. Willis Anderson, Atlanta; Wm. R. Dancy, Savannah; T. C. Davison, Atlanta; Arthur G. Fort, Atlanta. |
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| TO VISIT NORTH CAROLINA: Clarence L. Ayers, Toccoa; Linton Gerdine, Athens. |
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| TO VISIT SOUTH CAROLINA: H. M. Michel, Augusta; Wm. A. Mulherin, Augusta. |
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| TO VISIT TENNESSEE: Richard Binion, Milledgeville; D. L. Wood, Dalton. |
|------------------------------------------------------------------------|

Fraternal Delegates from the Florida Medical Association

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|-------------------------------------------|
| Gerry R. Holden, M.D., Jacksonville, Fla. |
| Homer L. Pearson, M.D., Miami, Fla. |

*Fraternal Delegates from the
South Carolina Medical Association*

F. M. Routh, M.D., Columbia, S. C.
Edgar A. Hines, Seneca, S. C.

State Board of Health

First District—Cleveland Thompson, Millen, Sept. 1, 1939.
Second District—C. K. Sharp, Arlington, Sept. 1, 1939.
Third District—Mr. R. C. Ellis, Americus, Sept. 1, 1942.
Fourth District—J. A. Corry, Barnesville, Sept. 1, 1943.
Fifth District—Mr. Robert F. Maddox, Atlanta, Sept. 1, 1942.
Sixth District—A. R. Rozar, Macon, Sept. 1, 1938.
Seventh District—Mather M. McCord, Rome, Sept. 1, 1938.
Eighth District—Henry W. Clements, Adel, Sept. 1, 1938.
Ninth District—L. C. Allen, Hoschton, Sept. 1, 1939.
Tenth—District—D. N. Thompson, Elberton, Sept. 1, 1943.

*State of Georgia at Large
Pharmaceutical Association*

M. D. Hodges, Marietta, Sept. 1, 1941.
W. T. Edwards, Augusta, Sept. 1, 1941.

Georgia Dental Association

J. G. Williams, D.D.S., Atlanta, 1940.
Paul McGee, D.D.S., Waycross, Sept. 1, 1940.

DISTRICT SOCIETIES
OFFICERS AND MEETING DATES

First District

President—R. C. Franklin, Swainsboro.
Secretary—Chas. Usher, Savannah.
Third Wednesdays—March and July.

Second District

President—J. C. Keaton, Albany.
Secretary—J. C. Brim, Pelham.
Second Tuesdays—April and October.

Third District

President—M. L. Malloy, Vienna.
Secretary—Chas. A. Greer, Oglethorpe.
Third Wednesday in June and Second Wednesday in November.

Fourth District

President—V. H. Bennett, Gay.
Secretary—M. M. Head, Zebulon.
Second Wednesdays—February and August.

Fifth District

President—Olin S. Cofer, Atlanta.
Secretary—D. Henry Poer, Atlanta.
No set dates.

Sixth District

President—O. H. Cheek, Dublin.
Secretary—W. W. Chrisman, Macon.
Last Wednesday in June and First Wednesday in December.

Seventh District

President—N. A. Funderburk, Trion.
Secretary—Jno. M. McGehee, Cedartown.
First Wednesday in April and last Wednesday in September.

Eighth District

President—W. F. Reavis, Waycross.
Secretary—G. T. Crozier, Valdosta.
Second Tuesdays in April and October.

Ninth District

President—R. M. Moore, Waleska.
Secretary—Pratt Cheek, Gainesville.
Third Tuesdays in March and September.

Tenth District

President—W. D. Gholston, Danielsville.
Secretary—Philip R. Stewart, Monroe.
Second Wednesdays in February and August.

DELEGATES TO THE 1938 SESSION*

Counties

Names and Addresses

| | |
|----------------------------------------|------------------------------|
| Baldwin..... | Howard Carey, Milledgeville |
| Bartow ..... | ..... |
| Ben Hill ..... | ..... |
| Bibb..... | J. D. Applewhite, Macon |
| | J. B. Kay, Byron |
| Blue Ridge | E. W. Watkins, Ellijay |
| Brooks..... | J. R. McMichael, Quitman |
| Bulloch-Candler-Evans ..... | ..... |
| Burke..... | W. R. Lowe, Midville |
| Butts ..... | ..... |
| Carroll ..... | ..... |
| Chatham (Georgia Medical Society)..... | ..... |
| | C. F. Holton, Savannah |
| | H. H. McGee, Savannah |
| Chattooga..... | J. L. Bennett, Trion |
| Cherokee-Pickens..... | C. J. Roper, Jasper |
| Clarke-Madison-Oconee..... | J. W. Davis, Athens |
| Clayton-Fayette..... | J. R. Wallis, Lovejoy |
| Cobb..... | W. C. Mitchell, Smyrna |
| Coffee ..... | ..... |
| Colquitt..... | C. C. Brannen, Moultrie |
| Coweta ..... | ..... |
| Crisp | L. O. Wootten, Cordele |
| Decatur-Seminole..... | R. F. Wheat, Bainbridge |
| DeKalb ..... | ..... |
| Dooly ..... | ..... |
| Dougherty..... | H. M. McKemie, Albany |
| Douglas ..... | ..... |
| Elbert | J. E. Johnson, Elberton |
| Emanuel..... | J. H. Chandler, Swainsboro |
| Floyd..... | R. C. Maddox, Rome |
| Forsyth ..... | ..... |
| Franklin ..... | ..... |
| Fulton..... | C. C. Aven, Atlanta |
| | Everett L. Bishop, Atlanta |
| | B. Russell Burke, Atlanta |
| | Jas. J. Clark, Atlanta |
| | T. C. Davison, Atlanta |
| | Jno. F. Denton, Atlanta |
| | Edgar H. Greene, Atlanta |
| | H. C. Sauls, Atlanta |
| | C. W. Strickler, Atlanta |
| Glynn..... | H. M. Branham, Brunswick |
| Gordon..... | Z. V. Johnston, Calhoun |
| Grady | |
| Greene | |
| Gwinnett | |
| Habersham..... | W. H. Garrison, Clarkesville |

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|---------------------------------------------------------------------------------------|--------------------------------------------------|
| Hall..... | W. R. Garner, Gainesville |
| Hancock | |
| Hart..... | W. E. McCurry, Hartwell |
| Henry | |
| Houston-Peach | |
| Jackson-Barrow..... | Alex Russell, Winder |
| Jasper | |
| Jefferson | Jno. J. Pilcher, Wrens |
| Jenkins..... | J. J. Folk, Millen |
| Lamar | |
| Laurens | O. H. Cheek, Dublin |
| South Georgia Medical Society: Berrien-Clinch- Cook-Echols-Lanier and Lowndes..... | |
| ..... | H. W. Clements, Adel |
| Macon | C. P. Savage, Montezuma |
| McDuffie | |
| Meriwether | |
| Mitchell | |
| Monroe | |
| Montgomery | |
| Morgan | |
| Muscogee | |
| Newton | |
| Ocmulgee: Bleckly-Dodge-Pulaski | |
| ..... | I. J. Parkerson, Eastman |
| Polk..... | H. R. Perkins, Rockmart |
| Putnam | |
| Rabun | |
| Randolph..... | Loren Gary, Jr., Shellman |
| Richmond..... | W. J. Cranston, Augusta L. P. Holmes, Augusta |
| Rockdale..... | H. E. Griggs, Ceneyers |
| Screven | |
| Spalding..... | W. C. Miles, Griffin |
| Stephens | |
| Stewart-Webster | |
| Sumter..... | L. Stout Boyette, Ellaville |
| Talbot | |
| Taliaferro | |
| Tattnall..... | L. V. Strickland, Cobbtown |
| Taylor..... | F. H. Sams, Reynolds |
| Telfair | |
| Terrell..... | Steve P. Kenyon, Dawson |
| Thomas | |
| Tift..... | R. F. Payne, Tifton |
| Toombs | |
| Tri-Society: Calhoun, Early, Miller..... | |
| ..... | J. G. Standifer, Blakely |
| Tri-Society: Liberty, Long, McIntosh..... | |
| Troup..... | R. S. O'Neal, LaGrange |
| Turner | |
| Twiggs | |
| Upson..... | R. L. Carter, Thomaston |
| Walker, Catoosa, Dade..... | B. C. Hale, Rossville |
| Walton | |
| Ware | |
| Warren | |
| Washington | |
| Wayne | |
| Whitfield..... | Leo G. Temples, Dalton |
| Wilcox | |
| Wilkes..... | R. H. Smith, Lincolnton |
| Worth | |

ANNOUNCEMENTS

Meetings will be held in the Assembly Room, Forest Hills Hotel.

Be sure to go to the Registration Desk, present your 1938 membership card and procure a badge immediately upon your arrival.

Discussion of papers is open to all members and guests of the Association; it is not limited to those named on the program.

On arising to discuss a paper the speaker will please announce his name and address clearly for the benefit of the Association and stenographer.

Meetings will be called to order at the hour fixed on the program. It is especially desired that the members be prompt in their attendance.

All manuscript should be typewritten, double spaced and on one side of the paper only. Papers must be handed to the Secretary immediately after being read.

IMPORTANT NOTICE!

Delegates must present written credentials to the Committee on Credentials from the house of Delegates to secure Delegates' badges.

Members may not take part in the proceedings until they have registered and procured official badges.

PUBLIC MEETINGS

Eastern Standard Time

Assembly Hall

Forest Hills Hotel

WEDNESDAY, APRIL 27, 9:00 A. M.

Assembly Hall

Opening Meeting

WEDNESDAY, APRIL 27, 8:00 P. M.

Assembly Hall

Presentation of the President's Key to George A. Traylor, Augusta, by Eugene E. Murphey, Augusta.

In Appreciation of James L. Campbell, Atlanta, Chairman, Cancer Commission, Medical Association of Georgia, by T. C. Davison, Atlanta.

Address

Irvin Abell, Louisville, Ky., Clinical Professor of Surgery, University of Louisville School of Medicine, Louisville, Ky., and President-Elect of the American Medical Association.

Introduction by H. C. Sauls, Atlanta.

Address

Hon. Walter F. George, Vienna, Senior United States Senator from Georgia.

Introduction by James E. Paullin, Atlanta.

THURSDAY, APRIL 28, 12:00 NOON

Assembly Hall

President's Address

George A. Traylor,

Augusta

The President's Address will be at an open session to which the public and visitors are invited.

Memorial Exercises

A. A. Davidson, Augusta, Chairman,
Committee on Necrology

ENTERTAINMENTS

WEDNESDAY, APRIL 27, 6:30 P. M.

Annual Dinner of the alumni of Emory University School of Medicine at the Forest Hills Hotel.

Annual Dinner of the alumni of the University of Georgia School of Medicine at the Forest Hills Hotel.

THURSDAY, APRIL 28, 7:30 P. M.

Forest Hills Hotel

Annual Banquet. Eugene E. Murphey, Toastmaster.

Dance—10:00 to 1:00.

Golf

Beautiful golf course conveniently located with ample facilities for all who wish to play. No charges for hotel guests.

MEETING OF THE COUNCIL

Hall Adjacent to Registration Desk

The first meeting of the Council will be held in the hall adjacent to registration desk, Tuesday, April 26, at 6:30 P. M. Each Councilor will render a written report of conditions in each county of his district. Other meetings of the Council will be held on the call of the chairman.

MEETING OF THE HOUSE OF DELEGATES

Hall Adjacent to Registration Desk

TUESDAY, APRIL 26, 2:00 P. M.

First meeting of the House of Delegates.

1. Call to order by the President.
2. Roll call.
3. Appointment of Reference Committees.
4. Reports of officers:
 - President.
 - President-Elect.
 - Vice-Presidents.
 - Parliamentarian.
 - Secretary-Treasurer: Financial report.
 - Reports of Delegates to the A.M.A.
5. Reports of committees:
 - Scientific Work.
 - Public Policy and Legislation.
 - Arrangements.
 - Medical Defense.
 - Hospitals.
 - Necrology.
 - Cancer Commission.
 - History.
 - Abner Wellborn Calhoun Lectureship.
 - L. G. Hardman Loving Cup.
 - Crawford W. Long Memorial Prize.
 - Advisory—State Board of Health.
 - Advisory—Woman's Auxiliary.
 - Medical Economics.
 - Post-Graduate Study.
 - Hookworm Control.
 - Maternal Mortality and Infant Deaths.
 - Special Committees.
6. Reports of Fraternal Delegates.
7. Unfinished Business.
8. New Business.

TUESDAY, APRIL 26, 8:00 P. M.

Hall Adjacent to Registration Desk

Second meeting of the House of Delegates.

1. Call to order by the President.
2. Reading of minutes.
3. Study of Maternal Mortality—Chairman of Committee.
4. Reports of committees continued.
5. Unfinished business.
6. New business.

FRIDAY, APRIL 29, 8:00 A. M.

Hall Adjacent to Registration Desk

Third meeting of the House of Delegates.

1. Call to order by the President.
2. Reading of minutes.
3. Reports of committees.
4. Unfinished business.
5. New business.

OFFICIAL REPORTER

Master Reporting Company.....Chicago

SCIENTIFIC PROGRAM

The papers for each meeting must be read as scheduled on the program.

WEDNESDAY, APRIL 27, 9:00 A. M.

Eastern Standard Time

Forest Hills Hotel

Augusta

Call to order by the President, George A. Traylor, Augusta.

Invocation

Rev. John E. Hines.....Augusta
Rector, Saint Paul's Episcopal Church, Augusta

Address of Welcome

R. C. McGahee.....Augusta
President, Richmond County Medical Society

Response to Address of Welcome

A. J. Mooney.....Statesboro

SCIENTIFIC PAPERS

1. Relief of Causalgic-Like Pain in the Isolated Extremity by Sympathectomy.
R. Frank Slaughter, Augusta.
To lead the discussion:
Jno. F. Denton, Atlanta.
A. R. Rozar, Macon.
2. The Changing Emphasis in Heart Disease.
H. C. Atkinson, Macon.
To lead the discussion:
W. Ed. Storey, Columbus.
Hartwell Joiner, Gainesville.
3. Surgery of Peptic Ulcer.
John W. Turner, Atlanta.
To lead the discussion:
J. K. Burns, Gainesville.
Wm. H. Myers, Savannah.
4. Hysterectomy: Discussion of 185 Cases.
W. G. Elliott, Cuthbert.
J. C. Patterson, Cuthbert.
T. Schley Gatewood, Cuthbert.
To lead the discussion:
I. A. Ferguson, Atlanta.
A. D. Little, Thomasville.
5. Diagnostic Traps in Gastroenterology (Mistakes Most Frequently Made During Twenty Years of Observation).

Trimble Johnson, Atlanta.

To lead the discussion:

Wm. R. Dancy, Savannah.

Crawford F. Barnett, Atlanta.

WEDNESDAY, APRIL 27, 1938—NOON

Abner Wellborn Calhoun Lecture

The Problem of the Lump in the Breast

George H. Semken

New York City

Introduction by Frank K. Boland, Jr., Atlanta.

WEDNESDAY, APRIL 27, 2:00 P. M.

Eastern Standard Time

Forest Hills Hotel

1. The Use of Atabrine in the Treatment and Control of Malaria Among a Group of Industrial and Agricultural Employees in Georgia.
C. F. Holton, Savannah.
M. E. Winchester, Brunswick.
To lead the discussion:
Roy A. Hill, Thomasville.
J. G. Standifer, Blakely.
2. Is the Death Rate from Heart Disease Increasing?
S. T. R. Revell, Louisville.
To lead the discussion:
J. Reid Broderick, Savannah.
L. Minor Blackford, Atlanta.
3. Vesicular Eruptions of the Hands and Feet.
Philip H. Nippert, Atlanta.
To lead the discussion:
J. Malcolm Bazemore, New York.
Herbert Alden, Atlanta.
Symposium on Pneumonia
4. (a) Pneumonia—Its Diagnosis and Complications.
J. Dewey Gray, Augusta.
M. F. Fulton, Augusta.
(b) Serum Treatment of Pneumonia.
T. L. Ross, Macon.
(c) The Heart in Pneumonia.
Stewart R. Roberts, Atlanta.
(d) Surgical Treatment of Empyema.
Chas. H. Richardson, Macon.
To lead the discussion:
J. A. Redfearn, Albany.
Stewart D. Brown, Royston.
Ernest F. Wahl, Thomasville.

WEDNESDAY, APRIL 27, 8:00 P. M.

Eastern Standard Time

Forest Hills Hotel

1. Presentation of the President's Key to George A. Traylor, Augusta, by Eugene E. Murphey, Augusta.
2. In Appreciation of James L. Campbell, Atlanta, Chairman, Cancer Commission of the Medical Association of Georgia, by T. C. Davison, Atlanta.
3. Address.
Irvin Abell, Louisville, Ky., Clinical Professor of Surgery, University of Louisville School of Medicine, Louisville, Ky., and President-Elect of the American Medical Association.
Introduction by H. C. Sauls, Atlanta.

4. Address.

Hon. Walter F. George, Vienna, Senior United States Senator from Georgia.

Introduction by James E. Paullin, Atlanta.

THURSDAY, APRIL 28, 9:00 A. M.

Eastern Standard Time

Forest Hills Hotel

1. Acute Diverticulitis of the Colon—Report of Cases.
Lon Grove, Atlanta.
Kenneth R. Bell, Atlanta.
To lead the discussion:
Ralph H. Chaney, Augusta.
Trammell Starr, Dalton.
2. Infectious Mononucleosis—Lantern Slides.
Allen H. Bunce, Atlanta.
Mark S. Dougherty, Atlanta.
To lead the discussion:
Roy R. Kracke, Atlanta.
Edgar R. Pund, Augusta.
3. Amnesia in Labor: Comparing Pentobarbital and Hyoscine with Seconal and Hyoscine.
H. C. Frech, Jr., Augusta.
P. P. Volpitta, Augusta.
To lead the discussion:
H. F. Sharpley, Savannah.
E. D. Colvin, Atlanta.
4. Labor: Rotation and Delivery of Fetal Head by Use of Suction Cap Instead of Forceps—Report of Cases.
Richard Torpin, Augusta.
To lead the discussion:
O. R. Thompson, Macon.
C. B. Upshaw, Atlanta.
5. Altered Mechanics of the Female Peritoneal Supports.
B. T. Beasley, Atlanta.
To lead the discussion:
W. W. Turner, Nashville.
Olin H. Weaver, Macon.
6. Maternal Mortality, and Infant Deaths.
S. S. Smith, Athens.
To lead the discussion:
W. W. Anderson, Atlanta.
D. N. Thompson, Elberton.

THURSDAY, APRIL 28, 12:00 NOON

Eastern Standard Time

Forest Hills Hotel

President's Address

George A. Traylor
Augusta

Memorial Exercises

A. A. Davidson, Augusta, Chairman
Committee on Necrology

THURSDAY, APRIL 28, 2:00 P. M.

Eastern Standard Time

Forest Hills Hotel

1. Clinical Observations of the Use of Sulfanilamide.
Robert M. Harbin, Jr., Rome.
To lead the discussion:

A. Park McGinty, Atlanta.
C. F. Holton, Savannah.

2. Ulcers: Chronic Undermining.
Chas. R. Andrews, Canton.

To lead the discussion:
Chas. E. Rushin, Atlanta.
Kenneth McCullough, Waycross.

Symposium on Urology

3. (a) Urologic Conditions in Childhood.
Willis P. Jordan, Columbus.
(b) The Conservative Treatment of Pyelonephritis.
Stephen T. Brown, Atlanta.
(c) Combined Sulfanilamide and Local Therapy in the Treatment of Gonococcal Infections.
Samuel J. Sinkoe, Atlanta.
(d) Management of Ureteral Calculi in Ambulatory Patients.
Major F. Fowler, Atlanta.
W. L. Champion, Atlanta.
(e) Hernia of the Urinary Bladder.
John A. Hunnicutt, Jr., Athens.
To lead the discussion:
Albert J. Kelley, Savannah.
W. F. Reavis, Waycross.
J. Righton Robertson, Augusta.
Wallace L. Bazemore, Macon.

FRIDAY, APRIL 29, 9:00 A. M.
Eastern Standard Time
Forest Hills Hotel

1. Arthritis in Syphilis.
Jno. W. Brittingham, Augusta.
To lead the discussion:
Edgar G. Ballenger, Atlanta.
H. M. Michel, Augusta.
2. Some Practical Points of Meeting Poor Surgical and Anesthetic Risks in Surgical Diseases.
Thos. J. Collier, Atlanta.
To lead the discussion:
J. T. McCall, Rome.
Chas. Usher, Savannah.
3. The Ambulant Proctologic Patient.
J. H. McDuffie, Jr., Columbus.
To lead the discussion:
A. M. Phillips, Macon.
C. E. Hall, Atlanta.
4. Traumatic Rupture of the Normal Spleen—Report of a Successful Operation.
W. W. Battey, Augusta.
To lead the discussion:
J. K. Quattlebaum, Savannah.
Needham B. Bateman, Atlanta.
5. Would You Recognize a Case of Glaucoma?
Stacy C. Howell, Atlanta.
To lead the discussion:
S. J. Lewis, Augusta.
B. H. Minchew, Waycross.
6. Traumatic Perforation of the Intestines without Visible Injuries to the Abdominal Wall—Report of Three Cases.
Q. A. Mulkey, Millen.
To lead the discussion:

W. A. Coleman, Eastman.
W. B. Schaefer, Toccoa.

ALTERNATES

1. The Treatment of Obesity.
J. K. Fancher, Atlanta.
2. The Handling of Behavior Problems in Children.
W. W. Young, Atlanta.
3. Recent Trends in the Treatment of Varicose Veins and Varicose Ulcers.
Chas. E. Rushin, Atlanta.
4. Indications for Operation in Patients with Goiter.
D. Henry Poer, Atlanta.

FRIDAY, APRIL 29, 12:00 NOON
Eastern Standard Time
Assembly Hall
Election of Officers

President-Elect.
First Vice-President.
Second Vice-President.
Parliamentarian.
Two delegates to the A.M.A.
Two alternate delegates to the A.M.A.
*Councilors for the Ninth and Tenth Districts.
*Two nominations from each of the Sixth, Seventh and Eighth Districts for the appointment of one from each district to the State Board of Health.
Selection of meeting place for 1939.

*Nominated by their respective district societies.

CONSTITUTION AND BY-LAWS

Chapter II. Section 2. No papers or addresses before the Association, except those of the President and invited essayists, shall occupy more than fifteen minutes in their delivery; and no member shall speak longer than five minutes, nor more than once on any subject, provided that each essayist shall have five minutes in which to close the discussion of his paper.

Chapter VIII. Section 1. The deliberations of this Association shall be governed by parliamentary usage as contained in Roberts' Rules of Order, when not in conflict with this Constitution and By-Laws.

Chapter VIII. Section 2. All papers read before the Association shall become its property. Each paper shall be deposited with the Secretary when read, and if this is not done, it shall not be published.

No miscellaneous or business matters will be discussed before the scientific meetings, but will be referred to the House of Delegates.

Resolution Adopted 1921

Resolved: That a member who sends in a title of a paper to be placed on the program and is not present to read the paper shall pay the penalty of not having an opportunity to appear on the program for two years, unless he presents an excuse acceptable to the Committee on Scientific Work.

NOTICE TO MEMBERS PARTICIPATING IN
THE SCIENTIFIC EXHIBIT

Three certificates of merit, to be known as first,

second and third prizes, will be given by the Committee on Scientific Work to the three outstanding exhibits at this session of the Medical Association of Georgia. These will be judged on the first day of the session.

We are instructed by the President to announce to all essayists that the session of the Scientific Program of the Association will begin on time, and that the above regulations of the By-Laws in reference to the program will be strictly enforced.

Committee on Scientific Work

H. C. Sauls, Atlanta, Chairman
Chas. H. Richardson, Macon
John E. Walker, Columbus
Edgar D. Shanks, Atlanta,
Secretary-Treasurer.

SCIENTIFIC EXHIBIT

UNIVERSITY OF GEORGIA SCHOOL OF MEDICINE

Titles and Names of Exhibitors

Pressure Records.

W. F. Hamilton, Augusta, Department of Physiology and Pharmacology.

Tuberculosis.

L. N. Todd, Augusta, Department of Tuberculosis.

Clinical and Pathologic Exhibits of the Newer

Venereal Diseases.

Richard Torpin and Edgar R. Pund, Augusta, Departments of Obstetrics, Gynecology and Pathology.

Chemical Determination of Skin Respiration to Nitro.

W. R. Brown, Augusta, Department of Chemistry.

Roentgen Pelvimetry.

Richard Torpin, Augusta, Department of Obstetrics and Gynecology.

Suction Cap Delivery Device.

Richard Torpin, Augusta, Department of Obstetrics and Gynecology.

New Obstetrical Instruments of the University of Georgia School of Medicine.

Richard Torpin, Augusta, Department of Obstetrics and Gynecology.

Application of Physical Principles to the Study of Arteriosclerosis.

Joseph Krafka, Jr., Augusta, Department of Microscopic Anatomy.

Neurosurgical Principles.

R. F. Slaughter, Augusta, Department of Neurosurgery.

The X-Ray in Neurosurgical Diagnosis.

R. F. Slaughter and L. P. Holmes, Augusta, Departments of Neurosurgery and Roentgenology.

Some Abnormalities of the Fertilized Ovum:

I. Abnormalities of the Fetus

II. Abnormalities of the Placenta

Edgar R. Pund, R. B. Greenblatt and E. S. Cardwell, Jr., Augusta, Department of Pathology.

Bacillary Antigen for the Diagnosis of Chancroid.

E. S. Sanderson, R. B. Greenblatt, Augusta, Departments of Bacteriology, Public Health, Pathology and Gynecology.

MOTION PICTURES

Internal Urethrotomy. (Arranged and photographed by F. L. Lee.)

J. R. Robertson, G. W. Wright and J. Z. McDaniel, Augusta, Department of Urology.

Obstetrical Delivery by Means of the Suction Cap Device. (Arranged and photographed by F. L. Lee.)

Richard Torpin, Augusta, Department of Obstetrics and Gynecology.

University of Georgia School of Medicine Home Delivery Obstetrical Service (Kodachrome) (Arranged and photographed by F. L. Lee.)

R. B. Crichton, Augusta, Department of Obstetrics.

Extreme Multiple Deficiencies (Kodachrome) (Arranged and photographed by F. L. Lee.)

V. P. Sydenstricker, Augusta, Department of Medicine.

The Stages and Signs of Inhalation Anesthesia (Kodachrome). (Arranged and photographed by F. L. Lee.)

F. L. Lee and P. P. Volpitto, Augusta, Departments of Medicine and Anesthesia.

INDIVIDUAL EXHIBITS

Low Back Pain and Sciatica Resulting from Herniated Intervertebral Cartilage.

Edgar F. Fincher, Atlanta.

Study of Malignancies.

Wm. F. Lake and A. Y. Ayers, Atlanta.

Laryngectomy Drainage—An Improved Method.

Murdock Equen and Frank Neuffer, Atlanta.

Removal of Open Safety Pin from Stomach.

Murdock Equen and Frank Neuffer, Atlanta.

Urinary Tract Pathology.

Earl Floyd and Jas. L. Pittman, Atlanta.

Demonstration of Blood Transfusion Apparatus.

Fred F. Rudder, Atlanta.

Exhibit of Georgia Society of Radiology.

Exhibit of Certified Milk Commission, Fulton County Medical Society, Atlanta.

Chest Conditions in Infants and Children.

Wm. Willis Anderson, Atlanta.

Gastroscopy.

Crawford F. Barnett, Atlanta.

Endocrine Studies in Obesity and Epilepsy.

Good Samaritan Clinic, Atlanta.

Dermatology and Syphilology.

Howard Hailey and Hugh Hailey, Atlanta.

Surgery of the Spleen.

Lon Grove and Kenneth R. Bell, Atlanta.

A Clinical, Pathologic and Experimental Study of Goiter in Georgia. (Junior League, Thyroid Clinic of Grady Hospital, Atlanta.)

Presented by D. Henry Poer, Atlanta.

Newer Methods of Treatment of Peripheral Vascular Diseases. (Piedmont Hospital, Atlanta).

Presented by D. Henry Poer, Atlanta.

Illustrating Unusual Pathology in Medicine.

Miss Lillian Kennedy, Atlanta.

A Comparative Study of the Hypoglycemic Action of Several Insulins in Rabbits.

Eugene L. Jackson, Emory University, Department of Pharmacology, Emory University School of Medicine.

Systemic Versus Local Antacids in Peptic Ulcer.

A Pharmacologic Comparison.

W. Lloyd Adams, Emory University, Department of Pharmacology, Emory University School of Medicine.

Studies in Brucellosis (Undulant Fever).

Elizabeth Gambrell and A. Park McGinty, Atlanta, Department of Bacteriology, Emory University School of Medicine.

The Cultivation of the Tubercle Bacillus.

Elizabeth Gambrell, Emory University, Department of Bacteriology, Emory University School of Medicine.

Exhibit of the Cancer Commission of the Medical Association of Georgia.

A Combination Well-Leg Traction Splint and Distractor.

Chat. H. Watt, Thomasville.

Surgical Treatment of Retina Detachment.

Stacy Howell, Atlanta.

STATE DEPARTMENT OF HEALTH

Comparative Mortality Statistics for Eighteen Leading Causes for Death.

C. D. Bowdoin, Atlanta.

County Health Work.

Guy G. Lunsford, Atlanta.

Syphilis in Georgia.

S. Ross Brown, Atlanta.

Cancer Control in Georgia.

J. W. Schereschewsky, Atlanta.

IN MEMORIAM*

Adams, Robert P., Hapeville, March 14, 1938, aged 60.
Atherton, Henry Grady, September 4, 1937, aged 47.
Avary, Archer, Atlanta, September 12, 1937, aged 90.
Calhoun, Abner Wellborn, Atlanta, November 3, 1937, aged 40.

Derry, Henry Prestiss, Macon, August 30, 1937, aged 74.

Dexter, Charles Amory, Columbus, August 20, 1937, aged 60.

Dinsmore, Virgil Francis, Tifton, August 22, 1937, aged 62.

Donaldson, Henry Rutledge, Atlanta, December 25, 1937, aged 59.

Dorsey, Rufus Thomas, Atlanta, November 9, 1937, aged 64.

Downey, James Henry, Gainesville, August 28, 1937, aged 73.

Dykes, James Robert, Marshallville, February 20, 1938, aged 65.

Ehrlich, Sigo, Bainbridge, August 22, 1937, aged 49.
Eve, Hinton James, Augusta, April 27, 1937, aged 59.
Ford, Elzie David, Ray City, December 25, 1937, aged 62.

Gaines, Lewis McFarland, Atlanta, May 24, 1937, aged 59.

Gibson, Cicero, Thomson, May 30, 1937, aged 71.

Goss, Nathaniel C., Ellijay, April 29, 1937, aged 75.

Hardin, Lewis Sage, Atlanta, November 12, 1937, aged 64.

Jones, James W., Thrift, May 18, 1937, aged 71.

Lacewell, John F., Dalton, August 19, 1937, aged 80.

Lewis, Forrest Lee, Camilla, December 12, 1937, aged 69.

Mahaney, John Daniel, Columbus, November 19, 1937, aged 49.

Malone, Stephen Benjamin, Sandersville, June 25, 1937, aged 59.

McCoy, Homer Seal, Sylvester, December 31, 1937, aged 55.

McNeill, Robert John, Tignall, August 17, 1937, aged 63.

Mims, Samuel W., Sylvania, July 15, 1937, aged 83.

Moye, Otis Burgess, Soperton, January 20, 1938, aged 62.

Purse, Marshall Ashby, St. Simons Island, January 8, 1938, aged 72.

Rogers, Frank Willingham, Ashburn, July 29, 1937, aged 49.

Roy, Dunbar, Atlanta, July 5, 1937, aged 71.

Sale, Higgerson Matherson, Sharon, February 1, 1938, aged 67.

Shaw, William James, Rome, June 21, 1937, aged 69.

Sherrer, George Washington, Rayle, February 26, 1938, aged 91.

Smith, Jefferson Gillum, McDonough, January 5, 1938, aged 61.

Smith, James Miller, Valdosta, January 8, 1938, aged 62.

Smith, James Milton, Jr., Cochran, October 1, 1937, aged 28.

Sommerfield, Julius Edward, Atlanta, December 14, 1937, aged 72.

Statham, O. W., Leesburg, May 19, 1937, aged 76.

Steele, William Henry, Griffin, June 17, 1937, aged 67.

Welch, Leonard E., Albany, October 3, 1937, aged 71.

Wilson, Samuel, Yatesville, September 28, 1937, aged 71.

Wimberly, William, Fort Gaines, March 1, 1938, aged 76.

Yawn, Beverly Wood, Eastman, May 4, 1937, aged 51.

*This is the list of members who have died since our last annual session as it appears on our records. Please notify the Secretary-Treasurer of any errors or omissions.

COMMERCIAL EXHIBIT

1. The Harrower Laboratory, Inc., 920 East Broadway, Glendale, Cal.

2. Westinghouse X-Ray Company, Inc., 565 West Peachtree Street, N. E., Atlanta, Ga.
3. The C. B. Fleet Company, Lynchburg, Va.
12. Max Woche & Son Company, 29-31 West Sixth St., Cincinnati, Ohio.
13. Surgical Selling Company, 139 Forrest Avenue, N. E., Atlanta, Ga.
14. Vitamin Products Company, 2023 West Wisconsin Street, Milwaukee, Wis.
15. M. & R. Dietetic Laboratories, Columbus, Ohio.
16. The Wm. S. Merrell Company, Cincinnati, Ohio.
17. Holland-Rantos Company, 37-41 East 18th Street, New York City.
18. The C. V. Mosby Company, 3523-25 Pine Boulevard, St. Louis, Mo.
19. Wachtel's Physician Supply Company, P. O. Box 623, Savannah, Ga.
- 20-21. Estes Surgical Supply Company, 56 Auburn Avenue, N. E., Atlanta, Ga.
22. S. & H. X-Ray Company, 429 Peachtree Street, N. E., Atlanta, Ga.
23. American Surgical Supply Company, 23 Houston Street, N. E., Atlanta, Ga.
24. E. J. Hart & Company, Ltd., New Orleans, La.
25. Mead Johnson & Company, Evansville, Ind.
26. The Denver Chemical Manufacturing Company, 163 Varick Street, New York City.
27. General Electric X-Ray Corporation, 2012 Jackson Boulevard, Chicago, Ill.
28. J. A. Majors Company, 1301 Tulane Avenue, New Orleans, La.
29. E. R. Squibb & Sons, 745 Fifth Avenue, New York City.
30. Lederle Laboratories, 30 Rockefeller Plaza, New York City.

CONSTITUTION AND BY-LAWS OF THE MEDICAL ASSOCIATION OF GEORGIA

Constitution

ARTICLE I.—NAME OF THE ASSOCIATION.

The name and title of this organization shall be the Medical Association of Georgia.

ARTICLE II.—PURPOSES OF THE ASSOCIATION.

The purpose of this Association shall be to federate and bring into one compact organization the entire medical profession of the State of Georgia; to extend medical knowledge and advance medical science; to elevate the standard of medical education and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the material interests of its members and to protect them against imposition; and to enlighten and direct public opinion in regard to the great problems of state and medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public, in the prevention and cure of disease, and in prolonging and adding comfort to life.

ARTICLE III.—COMPONENT SOCIETIES

Component societies shall consist of those county societies which hold charters from this Association.

ARTICLE IV.—COMPOSITION OF THE ASSOCIATION

Section 1. This Association shall consist of members and delegates.

Sec. 2. Members: The members of this Association shall be the members of the component county medical societies to which only white physicians shall be eligible.

Sec. 3. Delegates: Delegates shall be those members who are elected in accordance with this Constitution and By-Laws to represent their respective component societies in the House of Delegates of this Association.

ARTICLE V.—HOUSE OF DELEGATES

The House of Delegates shall be the legislative body of the Association, and shall consist of: (1) delegates elected by the component county societies; (2) the officers of the Association enumerated in Section 1 of Article IX of the Constitution; (3) ex-presidents and delegates to the American Medical Association.

ARTICLE VI.—COUNCIL

The Council shall be the Board of Trustees and Finance Committee of the Association. The Council shall have full authority and power of the House of Delegates between annual sessions, unless the House of Delegates be called into session as provided in the Constitution and By-Laws.

It shall consist of the Councilors, the President, the President-Elect and the Secretary-Treasurer of the Association. Five of its members shall constitute a quorum.

ARTICLE VII.—SESSIONS AND MEETINGS

Section 1. The annual sessions shall take place on the second Wednesday in May at such place as shall be designated by the Association, provided that in case of conflict with the annual session of the American Medical Association or on petition of the county society of the host city made at least six months before the fixed dates for the annual session, the Council may change the dates by publishing a notice in the JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA three months before the session.

Sec. 2. Special meetings of either the Association or the House of Delegates may be called by a two-thirds vote of the Council, or upon the petition of twenty delegates.

ARTICLE VIII.—SECTIONS AND DISTRICT SOCIETIES

Section 1. The House of Delegates may provide for a division of the scientific work of the Association into appropriate sections, and for the organization of such Councilor district societies as will promote the best interests of the profession, such societies to be composed exclusively of members of component county societies.

ARTICLE IX.—OFFICERS

Section 1. The officers of this Association shall be a President, President-Elect, two Vice-Presidents, a Secretary-Treasurer, a Parliamentarian, and one Councilor for each congressional district in the state.

Sec. 2. The officers, except the Secretary-Treasurer, Parliamentary and Councilors, shall be elected annually, provided that after the annual meeting of 1928 a President-Elect and not a President shall be elected annually. The President-Elect shall assume his office as President immediately after the next annual meeting following his election. The terms of the Councilors shall be for three years, as may be arranged, viz: the Councilor for the first, second, third and fourth districts for three years; those for the fifth, sixth, seventh, and eighth districts for one year; those for the ninth and tenth districts for two years. The Secretary-Treasurer shall be elected for a term of five years, and the Parliamentary for a term of three years. All these officers shall serve until their successors are elected and installed. (1933).

Sec. 3. The officers of this Association shall be elected by ballot at 12 o'clock noon on the third day of the annual session. Nomination for office shall be made orally, but the nominating speech must not exceed two minutes. The Councilors shall be elected at the same time on nomination by their respective district societies at the annual meetings of such societies preceding the annual session of the Association at which the vacancies occur, but if no nomination from a district society is brought before the Association, the nomination for Councilor may be presented from the floor. If there is no election on the first ballot, the three names receiving the highest number of ballots shall be voted on, the other names being dropped. If there is no election on the second ballot, the two names receiving the highest number of ballots shall be voted on until an election occurs. Delegates to the American Medical Association shall be elected at the same time and in the same manner.

Sec. 4. The members of the State Board of Health shall be nominated by their respective district societies at the annual meeting of such societies preceding the annual session of this Association, and in failure of nomination by district societies, they may be nominated by the delegates present from each of the district societies, all of which shall be ratified by this Association.

ARTICLE X.—FUNDS AND EXPENSES

Funds shall be raised by an equal per capita assessment on each component society. The amount of the assessment shall not exceed the sum of \$10.00 per capita per annum. Funds may be appropriated by the House of Delegates to defray the expenses of the Association, for publications, and for such other purposes as will promote the welfare of the profession. All resolutions appropriating funds must be approved by the Finance Committee before action is taken thereon.

ARTICLE XI.—RATIFICATION

The House of Delegates shall submit all questions before it to the Association for ratification.

ARTICLE XII.—THE SEAL

The Association shall have a common seal, with power to break, change or renew the same at pleasure.

ARTICLE XIII.—AMENDMENTS

Any amendment that may be offered to the Constitution shall lie over until the next annual session;

and for its adoption at such session shall require a two-thirds vote of all present and voting.

By-Laws

CHAPTER I.—MEMBERSHIP

Section 1. The name of a physician on the properly certified roster of members of a component society, which has paid its annual assessment, shall be *prima facie* evidence of membership in this Association.

Sec. 2. Any person who is under sentence of suspension or expulsion from a component society or whose name has been dropped from its roll of members, shall not be entitled to any of the rights or benefits of this Association, nor shall he be permitted to take part in any of its proceedings until he has been relieved of such disability.

Sec. 3. Each member in attendance at the annual session shall enter his name on the registration book, indicating the component society of which he is a member. When his right to membership has been verified by reference to the roster of his society, he shall receive a badge which shall be evidence of his right to all the privileges of membership at that session. No member shall take part in any of the proceedings of an annual session until he has complied with the provisions of this section.

Sec. 4. Any member for old age, length of service, or other good reasons, may, upon recommendation of the Board of Censors, be elected to honorary membership of his county society without dues. Such member shall be enrolled as an honorary member of his county society and the Association, and shall be entitled to all the privileges of the Association.

Sec. 5. In addition to regular and honorary members, upon recommendation of the Board of Censors, associate members and intern members may be elected by any constituent county society without the payment of dues. The associate members will be such as may be eligible for regular membership, but not in very active practice and usually with a very limited income—also certain salaried physicians and members of the Army, Navy, U. S. Public Health Service, etc. Medical Reserve officers, contract surgeons, part-time and full-time civil service employees of the United States Government shall not be exempt from the payment of dues, except when the United States is engaged in war. The associate members are privileged to attend and participate in all scientific meetings, but cannot hold office and do not receive the Journal or benefits of Medical Defense. Intern members are limited to interns in hospitals and are only privileged to attend and participate in scientific meetings. (1933).

Sec. 6. Any physician applying for membership in a component medical society of this Association, who has previously practiced in a county in which affiliation with a component society is provided, and who moves to another county without having affiliated with the medical society in the jurisdiction of previous residence, before he is admitted to membership, the cause for his lack of affiliation in the society of his previous residence shall be ascertained.

CHAPTER II.—GENERAL MEETINGS

Sec. 1. All registered members may attend and participate in the proceedings and discussions of the gen-

eral meetings. Visitors duly accredited to represent the Association of other states, or of the District of Columbia, not exceeding two in number for each organization, may attend upon, and participate in the discussion of the general meetings, but shall not have a vote. Such delegates may read papers upon invitation of the Committee on Scientific Work. The general meetings shall be presided over by the President or by one of the Vice-Presidents.

Sec. 2. No papers or addresses before the Association, except those of the President and invited essayists, shall occupy more than fifteen minutes in their delivery; and no member shall speak longer than five minutes, nor more than once on any subject, provided that each essayist shall have five minutes in which to close the discussion of his paper.

Sec. 3. Entertainments. Any social entertainment which may be given by this Association shall be confined to the evening of the second day.

Sec. 4. Guests. Any physician not a resident of this state but a member of his state association, or any distinguished scientist not a physician, may be counted a guest during any annual session on invitation of the President, and shall be accorded the privilege of participating in the scientific work of that session.

CHAPTER III.—HOUSE OF DELEGATES

Section 1. The House of Delegates shall meet on the day preceding the first day of the annual session, the time to be fixed by the Committee on Scientific Work. It may adjourn from time to time as may be necessary to complete its business; provided that its hours shall conflict as little as possible with the general meetings. The order of business shall be arranged as a separate section of the program.

Sec. 2. Each component county society shall be entitled to send to the House of Delegates each year one delegate for every fifty members, and one for each fraction thereof, but each component society which has made its annual report and paid its assessment as provided in this Constitution and By-Laws shall be entitled to one delegate. Should the regular delegate from any county not be present at the meeting, the President shall appoint a substitute from that county to act.

Sec. 3. Twenty delegates present shall constitute a quorum.

Sec. 4. It shall, through its officers, council and otherwise, give diligent attention to and foster the scientific work and spirit of the Association, and shall constantly study and strive to make each annual session a stepping-stone to future ones of higher interest.

Sec. 5. It shall consider and advise as to the material interest of the profession, and of the public in those important matters wherein it is dependent on the profession, and shall use its influence to secure and enforce all proper medical and public health legislation, and to diffuse popular information in relation thereto.

Sec. 6. It shall make careful inquiry into the condition of the profession of each county in the State, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interests of such county societies as already

exist, and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse among physicians of the same locality, and shall constitute these efforts until, if possible, every physician in every county of the State has been brought under medical society influence.

Sec. 7. It shall encourage post-graduate and research work as well as home study, and shall endeavor to have the results utilized, and intelligently discussed in the county societies.

Sec. 8. It shall divide the State into councilor districts, one for each congressional district, and when the best interests of the Association and profession will be promoted thereby, organize in each a district medical society, and all members of component county societies and no others shall be members in such district societies.

Sec. 9. It shall have authority to appoint committees for special purposes from among members of the Association who are not members of the House of Delegates. Such committees shall report to the House of Delegates and may be present and participate in the debate thereon.

CHAPTER IV.—DUTIES OF OFFICERS

Section 1. The President shall preside at all meetings of the Association and of the House of Delegates; shall appoint all committees not otherwise provided for, and shall perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office, and as far as practicable, shall visit, by appointment, the various sections of the State and assist the Councilors in building up the county societies, and in making their work more practical and useful.

In order to give him a better opportunity of becoming more fully acquainted with his duties and with the needs of the Association, the President shall be elected one year prior to taking office. During this time he shall be known as President-Elect and shall be ex-officio member of the standing committees, and shall make recommendations at the next annual session.

Sec. 2. The Vice-Presidents shall assist the President in the discharge of his duties. In the event of the President's death, resignation or removal, the Vice-Presidents, in their order, shall succeed him.

Sec. 3. The Secretary-Treasurer shall give bond in the sum of One Thousand Dollars. He shall demand and receive all funds due the Association, together with the bequests and donations.

Sec. 4. The Secretary-Treasurer shall attend the general meetings of the Association and the meetings of the House of Delegates, and shall keep the minutes of their respective proceedings in separate record books. He shall be ex-officio Secretary of the Council. He shall be custodian of all record-books and papers belonging to the Association. He shall provide for the registration of the members, delegates and accredited visitors at the annual session. He shall, with the cooperation of the secretaries of the component societies, keep a card-index register of all the legal practitioners of the State by counties, noting on each his status in relation to his county society, and on request transmit

a copy of this list to the American Medical Association. He shall aid the Councilors in the organization and improvement of the county societies in the extension of the power and usefulness of this Association. He shall conduct the official correspondence, notifying members of meetings, officers of their election, and committees of their appointment and duties. He shall employ such assistants as may be ordered by the House of Delegates with the approval of the Association, and shall make an annual report to the Association. He shall supply each component society with the necessary blanks for making their annual reports; shall keep an account with the component societies, charging against each society its assessment and collect the same. Acting with the Committee on Scientific Work, he shall prepare and issue all programs. The amount of his salary shall be fixed by the Association. He shall be editor of the Journal of the Medical Association of Georgia. He shall employ such assistants as may be ordered by the Council or the House of Delegates. He shall annually make a report of his doings to the House of Delegates.

He shall furnish a balance sheet at each annual meeting for the past fiscal year to be published in the Journal. This shall consist of an itemized statement of all financial transactions of the past year, all accounts made, money received and from whom and all moneys disbursed, to whom, and for what purpose, with vouchers attached. A fiscal year includes the period of time between the first day of May and the last day of April.

CHAPTER V.—COUNCIL

Section 1. The Council shall meet on the day preceding the annual session and daily during the session, and at such other times as necessity may require, subject to the approval of the President. It shall meet on the last day of the annual session of the Association to organize and outline work for the ensuing year. It shall elect a chairman and clerk, who, in the absence of the Secretary of the Association, shall keep a record of its proceedings. It shall, through its chairman, make an annual report to the House of Delegates. It shall be the business body of the Association and attend to the business of the Association in the interim between meetings.

Sec. 2. Each Councilor shall be organizer and peace-maker for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exist, for inquiring into the conditions of the profession, and for improving and increasing the zeal of the county societies and their members. He shall make an annual report of his work and of the condition of the profession of each county in his district at the annual session of the House of Delegates. The necessary traveling expenses incurred by such Councilor in the line of the duties herein imposed may be allowed by the House of Delegates on a properly itemized statement, but this shall not be construed to include his expense in attending the annual session of the Association. Each Councilor may appoint a Vice-Councilor to assist him in the performance of his duties in that district.

Sec. 3. The Council shall be the board of censors of the Association. It shall consider all questions involving the right and standing of members, whether in rela-

tion to other members, to the component societies, or to this Association. All questions of an ethical nature brought before the House of Delegates or the general meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members of a component society, on which an appeal is taken from the decision of an individual Councilor, or to which attention has been called by the Councilor or interested members. It shall hear and decide all questions affecting unethical conduct on the part of any members at any annual session, and its decision in all such matters shall be final when ratified by the Association.

Sec. 4. In sparsely settled sections it shall have authority to organize the physicians of two or more counties into societies, to be suitably designated so as to distinguish them from district societies, and these societies, when organized and chartered, shall be entitled to all rights and privileges provided for component societies until such counties shall be organized separately.

Sec. 5. The Council shall provide for and superintend the publication and distribution of all proceedings, transactions and memoirs of the Association, and shall have authority to appoint such assistants to the editor as it deems necessary. It shall manage and conduct the Journal of the Medical Association of Georgia, which is the organ of the Association, and all money paid into the treasury as dues shall be received as subscriptions to the Journal.

All money received by the Council and its agents, resulting from the discharge of the duties assigned to them, must be paid to the Secretary-Treasurer of the Association. As the Finance Committee it shall annually audit the accounts of the Secretary-Treasurer and other agents of this Association, and present a statement of the same in its annual report to the House of Delegates, which report shall also specify the character and cost of all the publications of the Association during the year, and the amount of all other property belonging to the Association under its control, with such suggestions as it may deem necessary. In the event of a vacancy in the office of the Secretary-Treasurer, the Council shall fill the vacancy until the next annual election.

Sec. 6. All reports on scientific subjects and all scientific discussions and papers heard before the Association, shall be referred to the Journal of the Medical Association of Georgia for publication. The editor, with the consent of the Councilor for the district in which he resides, may curtail or abstract papers or discussions, and the Council may return any paper to its author which it may not consider suitable for publication.

Sec. 7. All commercial exhibits during the annual sessions shall be within the control and direction of the Council.

Sec. 8. In the absence of a Councilor and Vice-Councilor the President is empowered to appoint a representative from the district as acting Councilor, who shall have full rights and power of a Councilor.

Sec. 9. Each Councilor shall render at every session a written report of each county in his district.

Sec. 10. Any member of the Council who fails to attend two regular successive sessions of the Council, or whose district does not show evidence of the performance of his duties during the year, unless he renders an acceptable excuse to the Council, is subject to have his position declared vacant by the President and a successor appointed by the President.

CHAPTER VI.—COMMITTEES

Section 1. The standing committees shall be as follows:

A Committee on Scientific Work.

A Committee on Public Policy and Legislation.

A Committee on Arrangements.

A Committee on Medical Defense, and such other committees as may be necessary.

Sec. 2. The Committee on Scientific Work shall consist of four members, one of whom shall be the Secretary-Treasurer. The other three members shall be appointed for terms of one, two, and three years, respectively. The vacancy which will occur each year by the expiration of the term of one member shall be filled by the President with an appointment for three years. The member who has the shortest time to serve shall be Chairman. The committee shall determine the character and scope of the scientific proceedings of the Association for each session. Thirty days previous to each annual session it shall prepare and issue a program announcing the order in which papers, discussions and other business shall be presented.

This By-Law shall not prohibit the Committee on Scientific Work from inviting not more than two distinguished members of the national organization to deliver addresses or read papers at any annual meeting.

Sec. 3. The Committee on Public Policy and Legislation shall consist of three members and the President and Secretary, the Commissioner of Health of the State of Georgia, and a sub-committee of three members from each Councilor District appointed by the chairman when needed. It shall represent the Association in securing and enforcing legislation in the interest of public health and of scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall strive to organize professional influence so as to promote the general good of the community in local, state and national affairs and elections.

Sec. 4. The Committee on Arrangements shall be appointed by the component society in which the annual session is to be held. It shall provide suitable accommodations for the meeting places of the Association and of the House of Delegates and their respective committees, and shall have general charge of all arrangements. Its chairman shall report an outline of the arrangements to the Secretary-Treasurer for publication in the program, and shall make additional announcements during the session as occasion may require.

Sec. 5. The Committee on Medical Defense shall consist of five members, of whom the Chairman of the Council and the Secretary-Treasurer of the Association shall be members. The other members, one of whom

shall act as Chairman of the Committee, shall be elected by the Council for a period of five years. Those elected at this meeting (April 19, 1916), shall serve one, three and five years, respectively.

It shall be the duty of the Committee on Medical defense to investigate and defend all damage suits against the Medical Association of Georgia; to investigate all claims of civil malpractice made against its members; to take full charge of such cases, which after investigation, they decide to be proper cases for defense; to defend all such cases in the courts of last resort, to furnish General Counsel and pay court cost usual to such litigation, and reasonable fees for local attorneys as shall be arranged by General Counsel. Provided that any member who has indemnity insurance shall have such insurance bear its portion of the expense. However, they shall not pay, or obligate the Medical Association of Georgia to pay any judgment rendered against any member upon the final determination of any case. They shall be empowered to contract with such agents or attorneys as they may deem necessary for the proper carrying out of this By-Law.

The assistance for defense, as herein provided, shall be available only to members of the Medical Association of Georgia in good standing. Any member who has not paid his annual dues by April 1st shall not be considered in good standing in the application of this By-Law.

Any member or members of the Association threatened with suit for civil malpractice shall immediately communicate with the Secretary of the Association and shall give full and complete information in reference to all the circumstances alleged in the complaint. The Secretary shall proceed immediately to investigate the circumstances reported and shall advise with the attorneys or agents employed by the Committee for this purpose. The member sued, or threatened with suit, shall be consulted and shall have the complete confidence of the Committee in all transactions connected with the investigation in question. The Committee shall have the authority to require of a constituent society or the president thereof, the appointment of a committee of investigation in any such case, and it may direct the committee so appointed to report to the Committee on Medical Defense and not to the society from which it was appointed.

The Committee on Medical Defense may also, at its discretion, arrange to prosecute illegal practitioners in the State of Georgia and assist in the enforcement of the Medical Practice Act of this State.

CHAPTER VII.—COUNTY SOCIETIES

Section 1. All county societies now in affiliation with this Association, or those which may hereafter be organized in the State, which have adopted principles of organization not in conflict with this Constitution and By-Laws, shall on application, receive a charter from and become a component part of this Association.

Sec. 2. As rapidly as can be done after the adoption of this Constitution and By-Laws, a medical society shall be organized in every county in the State in which

no component society exists, and charter shall be issued thereto.

Sec. 3. Charters shall be issued only on approval of the Council, and shall be signed by the President and Secretary of this Association. The Association shall have authority to revoke the charter of any component society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws.

Sec. 4. Only one component medical society shall be chartered in any county.

Sec. 5. Each county society shall judge of the qualifications of its own members, but as such societies are the only portals to this Association, every reputable and legally registered white physician who does not practice or claim to practice, nor lend his support to any exclusive system of medicine, shall be eligible to membership. Before a charter is issued to any county society, full and ample notice and opportunity shall be given to every such physician in the county to become a member.

Sec. 6. No matter what the unethical conduct or discipline of the members of the county society may be, both plaintiff and defendant shall have the right to appeal to the Council, whose decision shall be final when ratified by the Association.

Sec. 7. In hearing appeals the Council may admit oral or written evidence, as in its judgment will best and most fairly present the facts, but in case of every appeal, both as a board and as individual Councilors in district and county work, efforts at conciliation and compromise shall precede all such hearings.

Sec. 8. When a member in good standing in a component county society moves to another county in this state, he shall be given a written certificate of these facts by the secretary of his society, without cost, for transmission to the secretary of the society in the county to which he moves. Pending his acceptance or rejection by the society in the county to which he moves, such member shall be considered to be in good standing in the county society from which he was certified and in the Medical Association of Georgia to the end of the period for which his dues have been paid.

Sec. 9. A physician living on or near a county line may hold his membership in that county most convenient for him to attend, on permission of the component society in whose jurisdiction he resides.

Sec. 10. Each component society shall have general direction of the affairs of the profession in its county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county; and systematic efforts shall be made by each member and by the society as a whole, to increase the membership until it embraces every qualified physician in the county.

Sec. 11. At some meeting in advance of the annual session of this Association, each county society shall elect a delegate or delegates to represent it in the House of Delegates of this Association, in the proportion of one delegate to each fifty members, or fraction thereof, and the Secretary of the society shall send a list of

such delegates to the Secretary of this Association at least ten days before the annual session.

Sec. 12. The Secretary of each component society shall keep a roster of its members, and of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be deemed necessary. In keeping such roster the Secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year.

Sec. 13. The Secretary of each component society shall forward its assessment, together with its roster of officers and members, list of delegates, and lists of non-affiliated physicians of the county, to the Secretary of this Association each year, thirty days before the annual session.

Sec. 14. Any county society which fails to pay its assessment, or make the report required, on or before April 1 of each year, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any of the business or proceedings of the Association, or of the House of Delegates, until such requirement has been met.

Sec. 15. The Secretary of each county society shall report to the Journal of the Medical Association of Georgia full minutes of each meeting and forward to it all scientific papers and discussions which the society shall consider worthy of publication.

CHAPTER VIII.—RULES AND ETHICS

Section 1. The deliberations of this Association shall be governed by parliamentary usage as contained in Roberts' Rules of Order, when not in conflict with this Constitution and By-Laws.

Sec. 2. All papers read before the Association shall become its property. Each paper shall be deposited with the Secretary when read, and if this is not done it shall not be published.

Sec. 3. The principles of medical ethics of the American Medical Association shall be those of this Association.

Sec. 4. Any member of this Association, on locating in a new place for practicing his profession, may place his professional card, containing name, address, telephone number, and statement as to whether or not his practice will be limited to any particular class of disease, in the local paper for a period of not longer than one month. The placing of such card for this period of time shall not be considered unethical. The use of the word "specialist" by any member in connection with his name in any newspaper, telephone directory, or other public places, shall be considered unethical.

CHAPTER IX.—AMENDMENTS

These By-Laws may be amended at any annual session by a majority vote of the Association after the amendment has lain on the table for one day.

RESOLUTIONS, MEDICAL ASSOCIATION OF GEORGIA

1921

Resolved, That a member who sends in a title of a paper to be placed on the program and is not present to read the paper, shall pay the penalty of not having an opportunity to appear on the program for two years, unless he presents an excuse acceptable to the Committee on Scientific Work.

1922

Be it Resolved, That the House of Delegates recommend that the Committee on Scientific Work make available on the program of the State Association space for two papers from each Councilor district; that a definite time be assigned for reading and discussion of each of these papers, and they be given precedence over all other business. The said papers are to be selected by the Committee on Scientific Work, and, in case a writer does not respond when his name is called, some paper will be substituted and the schedule not deranged. The President ruled that this resolution is only a recommendation and not a law.

1928

Resolved, That the delegates to the A. M. A. elected at this and succeeding meetings of the Medical Association of Georgia be installed January 1st, following their election, and that their term of service run for two years thereafter. And be it further

Resolved, That our delegates be authorized to attend the regular and any called meeting of the House of Delegates of the American Medical Association during the term to which they are elected.

1929

Resolved, That in order to expedite the business of the House of Delegates, all reports of special and regular committees of the Association involving matters of public policy, legislation or appropriation of the funds of the Association be submitted in writing to the Secretary of the Association a sufficient time in advance of the regular annual session, about March 15th, to permit of the publication of said recommendations either in the official program prior to the session or in a special circular that shall be mailed to the constituent societies, in order that the delegates may be advised of the proposed changes.

1937

Resolved, That the House of Delegates set the amount of dues at \$7.00 per capita for the year 1938.

The Kansas Medical Society is engaged in litigation to determine whether osteopaths have the right to practice medicine and surgery in Kansas.

The alumni of the New York University College of Medicine is making a campaign for a John Wyckoff Memorial Fellowship Fund.

The Philadelphia County Medical Society will hold its Third Annual Postgraduate Institute in Philadelphia, March 28 through April 1, 1938. It extends our members a cordial invitation.

REGARDING TONICS

PHILIP A. MULHERIN, M.D.

Augusta

"Doctor, I want you to give me a tonic for Mary. She doesn't eat enough to keep a sparrow alive." How many times have we been approached by some such remark. How infrequently do we find sufficient physical evidence to account for it; yet there is definitely something wrong. Are we not shirking our duty if, after assuring ourselves there is no physical basis, we dismiss the affair by the simple procedure of prescribing a tonic? Tonics are worthy portions in our armamentarium; they occupy a definite place as restoratives after illness, but they certainly do not stand up to the claims of the manufacturers or the expectations of the public. When they are used for anorexia it would appear wiser to first attempt to ascertain the true cause of the condition of the patient and then utilize the tonic as an adjunct to the more or less specific procedure, explaining its purely secondary use.

Armed with knowledge regarding the effect that purely psychic association or memory can have on bodily function, we often suspect anorexia to be due to a psychic factor. Convincing the public of this possibility is another thing. Are we not failing in our part as teachers as well as scientists if we dismiss this large complaint group through prescribing tonics, with only a cursory inquiry into the psychic possibility? By such casual dispensations are we not fostering unhealthy ideas?

A detailed history of this complaint can, at times, prove positively thrilling. The answer often unfolds itself as amazingly as a summer sunrise. Too often it is found to date from an acute illness of one sort or another. In our zeal for cure aren't we apt, rather too often, to try to hurry things along too much? In the prophylaxis of anorexia it would seem one could make no more grievous mistake. Be that as it may, the habit of anorexia, when once firmly established, is unquestionably a most intractable condition. If the answer was simply "a tonic" there would be no consultation about it. Simple remedies such as that have a way of reaching the public

without our help. The problem is more difficult because we are forced in our present state of knowledge to conclude it often depends on such abstractions as "Spoiled Child Reactions," "Imitation of Parents," "Over-feeding," "Excitement," "Unhappiness," "Fatigue," "Jealousy," "Daydreaming," and other indiscretions. Imagine telling any but our most enlightened clientele their child will not eat because of "jealousy." One finds it hard to convince even good friends, of similar educational background, that their child will not eat because they are too anxious to have it eat. Yet it is our duty to try and do so when that appears to be the cause. The fact that there is a large psychic element in this particular problem can be better taught to the public if we present a united front. We can inform ourselves about it if we are going to handle the problem; if we do not care to take the necessary time to ascertain facts, let us refer the patient to a physician who will. We are being unfair to ourselves as well as to our patronage when we dismiss these patients with a pat on the head and a prescription for a favorite tonic.

FACULTY
UNIVERSITY OF GEORGIA
SCHOOL OF MEDICINE
1938

| | |
|---------------------|----------------------|
| Monte P. Agee | Jas. R. Garner |
| Jos. Akerman | J. Dewey Gray |
| Lane H. Allen | Robt. B. Greenblatt |
| Edw. S. Armstrong | Wm. H. Goodrich |
| Warren Andrew | Thos. W. Goodwin |
| Colden R. Battey | Harry Gordon |
| Wm. W. Battey | Archie L. Haggerty |
| Guy T. Bernard | Wm. F. Hamilton |
| Alfred P. Briggs | Harry T. Harper, Jr. |
| Jno. W. Brittingham | Henry P. Harrell |
| Wm. R. Brown | Chas. G. Henry |
| Chas. I. Bryans | Lysander P. Holmes |
| Robt. I. Bryson | G. Lombard Kelly |
| Claud McK. Burpee | Andrew J. Kilpatrick |
| Jas. H. Butler | Chas. M. Kilpatrick |
| Edw. S. Cardwell | Jos. Krafka, Jr. |
| Ralph H. Chaney | Frank L. Lee |
| Hervey M. Cleckley | Samuel J. Lewis |
| Joe D. Combs | Moses S. Levy |
| Melvis O. Corbitt | Walter E. Matthews |
| Wm. J. Cranston | Carlton H. Maryott |
| Robt. B. Crichton | Henry G. Mealing |
| Fred L. Damren | Fred A. Mettler |
| Albert A. Davidson | Henry M. Michel |
| Robt. B. Dienst | Francis X. Mulherin |
| Philip Dow | Philip A. Mulherin |

| | |
|----------------------|-----------------------|
| Wm. A. Mulherin | V. P. Sydenstricker |
| Eugene E. Murphey | Claud E. Tessier |
| Freeman C. McClure | David R. Thomas, Jr. |
| J. Zeb McDaniel | Jno. W. Thurmond |
| Robt. C. McGahee | Lucius N. Todd |
| Janet Newton | Richard Torpin |
| Newdigate M. Owensby | Geo. A. Traylor |
| Hugh N. Page | Janie Turner |
| Irvine Phinizy | Elkin Vogt |
| Thos. B. Phinizy | Perry P. Volpitto |
| Edgar R. Pund | Andrew A. Walden |
| Robt. L. Rhodes | Chas. D. Ward |
| Wm. H. Roberts | Richard B. Weeks |
| J. Righton Robertson | Clarence M. Whitehead |
| Meinhard Robinow | Everard A. Wilcox |
| Jules V. Roule, Jr. | Wm. J. Williams |
| Everett S. Sanderson | Robt. A. Woodbury |
| John H. Sherman | Geo. W. Wright |
| Richard F. Slaughter | Jno. C. Wright |
| Henry G. Stelling | Peter B. Wright |
| Alex H. Stevens, Jr. | |

AUGUSTA HOTELS AND RATES

The Forest Hills Hotel will be headquarters for the Eighty-Ninth Annual Session of the Medical Association of Georgia, April 26, 27, 28, 29, 1938.

Names of hotels and rates follow:

Forest Hills Hotel

| | |
|-------------------------------------|--------|
| American plan—single room | \$8.00 |
| American plan—double room | 7.00 |

Partridge Inn, near the Forest Hills Hotel.

| | |
|-----------------------------------------------------|----------------|
| American plan—double and single | \$6.50 per day |
| European plan—double \$2.50; single \$3.00 per day. | |

Blue Moon Inn, private boarding house, near the Forest Hills Hotel.

| | |
|-------------------------------------|------------------|
| American plan—single room | \$15.00 per week |
| American plan—double room | 12.50 per week |

Hotel Richmond, downtown and inconvenient to meetings.

| | |
|-------------------------------------|--------|
| European plan—single room | \$2.50 |
| European plan—double room | 3.50 |

Margaret Hamilton Hotel, downtown near Richmond.

| | |
|---------------------------------------------|--------|
| European plan—double with bath | \$1.75 |
| European plan—single with bath | 3.00 |
| European plan—double without bath | 1.25 |
| European plan—single without bath | 2.00 |

Miss Dena Taliaferro, near Forest Hills Hotel.

| | |
|--------------------------------|--------|
| American plan—single | \$4.00 |
| American plan—double | 3.50 |

Bon Air Hotel

This hotel is booked for a convention and cannot accommodate others at that time.

The National Bureau of Standards, Department of Commerce, Washington, D. C., Simplified Practice Recommendation R24-37, Hospital Beds, now in print, announces that copies are now available for five cents each and may be ordered from the Superintendent of Documents, Government Printing Office, Washington, D. C. Proposed to standardize hospital beds.

WOMAN'S AUXILIARY

OFFICERS 1937-1938

President—Mrs. Ralph H. Chaney, Forest Hills, Augusta.

President-Elect—Mrs. Warren A. Coleman, Eastman.

First Vice-President—Mrs. H. G. Banister, Ila.

Second Vice-President—Mrs. J. Lon King, 223 Buford Place, Macon.

Treasurer—Mrs. W. A. Selman, 760 Penn Avenue, N. E., Atlanta.

Third Vice-President—Mrs. R. S. O'Neal, La-Grange.

Recording Secretary—Mrs. Cleveland Thompson, Millen.

Corresponding Secretary—Mrs. W. E. Matthews, Jr., 2804 Lombardy Center, Augusta.

Historian—Mrs. Clem Brannen, Moultrie.



MRS. RALPH H. CHANEY, Augusta
President, 1937-38

INVITATION

The Woman's Auxiliary to the Richmond County Medical Society wishes to extend a most cordial invitation to the Woman's Auxiliary to the Medical Association of Georgia to come to Augusta for the 1938 annual session of the Auxiliary.

The committees are busy planning the program for your benefit. We consider it a pleasure and a privilege to have you as our guests.

It is our hope that every member of the Auxiliary will attend all or at least part of the time the convention is in session.

Sincerely,

MRS. C. M. BURPEE, *President*

MRS. RICHARD TORPIN,

Corresponding Secretary
Richmond County Woman's
Auxiliary

Augusta, Georgia

March 10, 1938

CONVENTION CALL

Dear State Board Member:

The fourteenth Annual Convention of the Woman's Auxiliary to the Medical Association of Georgia will convene in Augusta, April 26-29.

Registrations daily, beginning Tuesday, April 26th, and sessions held on April 27th, and 28th, beginning at 10 A. M. at the Forest Hills Hotel.

Please plan to attend the Pre-Convention Executive Board Meeting which will be held April 26th, at 8 P. M.

Type your annual report in triplicate. Send one copy immediately to Mrs. R. H. Chaney, State President, Bransford Road, Augusta; one to Mrs. Cleveland Thompson, Recording Secretary, Millen, Ga., and bring one to read at the convention.

Sincerely,

MRS. W. EUGENE MATTHEWS,
Corresponding Secretary.

Dear Auxiliary Members:

Before you read this letter you will have had the convention call presented to your Auxiliary. I wish to add a personal message to that call. In preparing the program for the 1938 annual session, I had you in mind. It is my earnest desire that as many members as possible attend. The time is April 26-29, 1938, and the place is Forest Hills Hotel in Augusta.

I feel sure that you will enjoy Forest Hills. The local Auxiliary is planning to make your visit a very pleasant one.

If every member will do her best to influence some other doctor's wife to become a

member and see that her dues are paid by March 30th, what a grand meeting we can have!

Looking forward to seeing you in April, I am

Sincerely,
ALMA G. CHANEY
MRS. RALPH H. CHANEY, *President*

P R O G R A M

FOURTEENTH ANNUAL CONVENTION

WOMAN'S AUXILIARY

Forest Hills Hotel, Augusta

April 26, 27, 28, 29, 1938

Officers and Chairman

Executive Board

President—Mrs. Ralph H. Chaney, Augusta.

President-Elect—Mrs. Warren A. Coleman, Eastman.

First Vice President—Mrs. H. G. Banister, Ila.

Second Vice President—Mrs. J. Lon King, Macon.

Third Vice President—Mrs. R. S. O'Neal, LaGrange.

Recording Secretary—Mrs. Cleveland Thompson, Millen.

Corresponding Secretary—Mrs. W. Eugene Matthews, Augusta.

Treasurer—Mrs. W. A. Selman, Atlanta.

Historian—Mrs. Clem C. Brannen, Moultrie.

Parliamentarian—Mrs. Lee Howard, Savannah.

Past Presidents of State Auxiliary.

District Managers.

Presidents of County Auxiliaries.

Chairmen of Standing Committees

Organization—Mrs. Warren A. Coleman, Eastman.

Health Education—Mrs. H. G. Banister, Ila.

Hygeia—Mrs. J. Lon King, Macon.

Scrapbook—Mrs. R. S. O'Neal, LaGrange.

Student Loan Fund—Mrs. Robert C. Pendergrass, Americus.

Health Films—Mrs. J. L. Nevil, Metter.

Public Relations—Mrs. Wallace Bazemore, Macon.

Doctor's Day—Mrs. Ernest R. Harris, Winder.

Legislation—Mrs. William R. Dancy, Savannah.

Press and Publicity—Mrs. J. Harry Rogers, Atlanta.

Research in Romance of Medicine—Mrs. D. N. Thompson, Elberton, Deceased.

Jane Todd Crawford Memorial—Mrs. Loren Gary, Jr., Shellman.

Revision's—Mrs. James N. Brawner, Atlanta.

District Managers

First District—Mrs. A. J. Mooney, Statesboro.

Second District—Mrs. H. Turner Edmondson, Moultrie.

Third District—Mrs. Loren Gary, Jr., Shellman.

Fifth District—Mrs. Eustace A. Allen, Atlanta.

Sixth District—Mrs. W. W. Chrisman, Macon.

Ninth District—Mrs. Bruce Schaefer, Toccoa.

Tenth District—Mrs. Stewart Brown, Royston.

Conventions and Presidents

1924—Augusta—(Organization) Mrs. C. W. Roberts, Atlanta, Temporary Chairman.

1925—Atlanta—Mrs. James N. Brawner, Atlanta.

1926—Albany—Mrs. Wm. H. Myers, Savannah.

1927—Athens—Mrs. C. W. Roberts, Atlanta.

1928—Savannah—Mrs. Paul Holliday, Athens.

1929—Macon—Mrs. C. C. Hinton, Macon.

1930—Augusta—Mrs. Marion T. Benson, Atlanta.

1931—Atlanta—Mrs. C. C. Harrold, Macon.

1932—Savannah—Mrs. Ralston Lattimore, Savannah.

1933—Macon—Mrs. S. T. R. Revell, Louisville.

1934—Augusta—Mrs. J. Bonar White, Atlanta.

1935—Atlanta—Mrs. John E. Penland, Waycross.

1936—Savannah—Mrs. Ernest R. Harris, Winder.

1937—Macon—Mrs. William R. Dancy, Savannah.

Augusta Convention Committees

Richmond County Auxiliary

Headquarters—Forest Hills Hotel

Mrs. C. M. Burpee, Augusta

President, Richmond County Auxiliary

COMMITTEES

Arrangements

Mrs. C. M. Burpee, Augusta, General Chairman.

Mrs. G. Lombard Kelly, Augusta.

Mrs. Sadie Thompson, Augusta.

Credentials and Registration

Mrs. Robert Greenblatt, Augusta, Chairman.

Entertainment

Mrs. Victor Roule, Augusta, Chairman.

Decorations

Mrs. E. S. Sanderson, Augusta, Chairman.

Transportation

Mrs. Robert B. Crichton, Augusta, Chairman.

Publicity

Mrs. J. Harry Rogers, Atlanta, State Chairman.

Mrs. G. Lombard Kelly, Augusta, Local Chairman.

Hospitality

Mrs. Peter B. Wright, Augusta, Chairman.

Health Films

Mrs. J. L. Nevil, Metter, State Chairman.

Mrs. Robert B. Crichton, Augusta, Local Chairman.

Time Keeper

Mrs. W. Eugene Matthews, Augusta.

P R O G R A M

Forest Hills Hotel—Headquarters

Tuesday, April 26, 1938

Registration

TUESDAY, APRIL 26, 8:00 P. M.

Eastern Standard Time

Forest Hills Hotel

Executive Board Meeting

Entertainments

WEDNESDAY, APRIL 27, 1938, 1:30 P. M.

Luncheon—Forest Hills Hotel

Wednesday, April 27, 1938, 3:30 P. M.

Garden Tour

WEDNESDAY, APRIL 27, 1938, 10:00 A. M.

Forest Hills Hotel

Call to order by the President, Mrs. Ralph H. Chaney, Augusta

Invocation

Father John J. Kennedy, St. Mary's-on-the-Hill

Address of Welcome

Mrs. Robert C. McGahee, Augusta.

Incoming President of the Richmond County Auxiliary

Response to Address of Welcome
Mrs. H. G. Banister, Ilia
First Vice President

Introduction of Distinguished Guests
Mrs. Robert B. Crichton, Augusta

Address
"Your Organization"
Dr. George A. Traylor, President
Medical Association of Georgia

Address
Mrs. Prentiss Willson, Washington, D. C.
First Vice President, Woman's Auxiliary
American Medical Association
Guest Speaker

Report of Entertainment Committee
Mrs. Victor Roule, Augusta, Chairman
Rules Governing Convention Procedure
Mrs. Lee Howard, Savannah, Parliamentarian

Reading of Minutes
Reports of District Managers
Reports of County Presidents
Report of Executive Committee by Chairman
Report of Credentials Committee by Chairman.

Mrs. Robert Greenblatt
Appointment of Special Committees

Showing of Health Film
Mrs. J. L. Nevil, Metter

Thursday, April 28, 1938, 10:00 A. M.
Forest Hills Hotel

Call to order by the President, Mrs. Ralph H. Chaney,
Augusta

Invocation
Rev. Lawrence M. Fenwick, Augusta
Rector Good Shepherd Church

Address of Welcome
Mrs. C. M. Burpee, Augusta
Past President Richmond County Auxiliary

Response to Address of Welcome
Mrs. Bruce Schaefer, Toccoa

Report of Advisory Committee to Woman's Auxiliary
Dr. James N. Brawner, Sr., Atlanta, Chairman

Address
Dr. Grady Coker, Canton
President-Elect, Medical Association of Georgia

Address
Mrs. J. Bonar White, Atlanta
Past President, Woman's Auxiliary
Southern Medical Auxiliary

Reading of Minutes.
Report of President.
Report of Other Officers.
Report of Auditor.
Report of Meeting of Woman's Auxiliary to the
A.M.A., Mrs. James N. Brawner, Sr., Atlanta.

Report of Meeting of Woman's Auxiliary to the
S.M.A., Mrs. L. W. Williams, Savannah.

Reports of Chairmen of Standing Committees.
Report of Resolutions Committee.
Report of Courtesy Committee.
Report of Credentials Committee.
Memorial Service, Mrs. C. H. Richardson, Milledgeville, in charge.
Unfinished Business.
New Business.
Report of Nominating Committee by Chairman.
Election of Officers.
Introduction of New Officers.
Announcements of New President.
Adjournment.

THURSDAY, APRIL 28, 1938, 3:30 P. M.

Forest Hills Hotel
Post Convention Board Meeting
Mrs. Warren A. Coleman, President

RULES TO GOVERN THE CONVENTION

1. To gain recognition, a delegate is requested to rise, address the chair, give her name and Auxiliary.
2. No delegate shall speak more than twice on the same subject and is limited to two minutes each time.
3. Reports shall not be read from Auxiliaries which are not represented by delegates, but shall be filed with the Secretary.
4. All original motions or resolutions shall be made by submitting two copies, one to the Chairman of the Resolutions Committee and one to the Recording Secretary.
5. Reports of delegates and District Managers are limited to five minutes.
6. No one is entitled to vote before she is registered. Please be prompt. Meetings will begin at the time stated in program.

NEWS ITEMS

THE WALTON COUNTY MEDICAL SOCIETY met at the Walton County Hospital, Monroe, on February 1st. Dr. John L. Dorough, Walton County Commissioner of Health, spoke on *Syphilis as it Relates to Cooks and Other Handlers of Food*. Officers were elected for the ensuing year.

THE JACKSON-BARROW COUNTIES MEDICAL SOCIETY met at the Harrison Hotel, Jefferson, on February 7th. Dr. C. B. Lord, Jefferson, made report of a case and presented a seven year old boy suffering with *Muscular Dystrophy*. Other members engaged in a discussion of *Hypertension*.

DR. AND MRS. R. L. ROGERS, Gainesville, entertained the members of the Hall County Medical Society in their home at a bird supper on February 8th. Dr. C. W. Roberts, Atlanta, was the guest speaker and spoke on *Wasting Diseases*.

DR. C. C. AVEN, Atlanta, and DR. M. T. HARRISON, Atlanta, president and secretary-treasurer of the Fulton County Medical Society, respectively; with Dr. C. W. Roberts, Atlanta, were speakers on the program at the Atlanta Public Forum held at Slaton School on February 8th.

DR. HARRY TALMADGE, Athens, was elected vice-president of the Clarke County Tuberculosis Association at a recent meeting.

DR. HUGH J. BICKERSTAFF, State Department of Public Health, Atlanta, was a speaker at a meeting of the Sumter County Medical Society held in the Windsor Hotel, Aemericus, on February 7th.

THE WARE COUNTY MEDICAL SOCIETY paid tribute to Dr. Albert Fleming of Folkston, at its meeting on February 2nd by presenting to him a valuable gift. Dr. B. H. Minchew, Waycross, made the presentation address. The Waycross Journal-Herald quoted from the presentation address and described Dr. Fleming in part as follows: "One who loves his fellow man and as one who never holds back when the opportunity comes, as it has so often in the life of Dr. Fleming, to serve those he knows. He has served not alone as a medical man but as a citizen. His work for highways, for county development, his work in the chamber of commerce; his chairmanship of the staff of the hospital; and many other such public responsibilities stamped him as a citizen who looks upon citizenship as an opportunity for service and as an opportunity for measuring up fully to the highest responsibilities a citizen can assume."

THE FULTON COUNTY MEDICAL SOCIETY, Atlanta, held a called meeting at the Academy of Medicine on February 14th. Dr. Jesse G. M. Bullowa showed a new picture film of the pneumonia service at Harlem Hospital, New York City. It was a presentation of diagnosis and treatment with technics and statistics.

THE STAFF MEETING of the Crawford W. Long Memorial Hospital, Atlanta, was held on February 10. The program consisted of reports of committees and discussion of mortalities, followed with moving picture and discussion of artificial fever therapy.

DR. J. R. MCCORD, professor of Obstetrics and Gynecology at Emory University, was elected first president of the recently organized South Atlantic Association of Obstetricians and Gynecologists. For the purpose of organization a meeting was held in Charlotte, N. C., Feb. 4th and 5th at which 75 were registered. This Society is composed of specialists residing in the states of Virginia, North Carolina, South Carolina, Georgia and Florida. Other officers elected for the ensuing year are: Dr. Robert A. Seibels of Columbia, S. C., vice-president and president-elect; Dr. R. A. Ross of Durham, N. C., secretary-treasurer. Dr. M. P. Rucker served as temporary chairman prior to election of officers. A scientific program Friday afternoon and Saturday morning included papers by such outstanding specialists as Dr. Jean P. Pratt of Detroit, Dr. Rudolph Holmes of Chicago, Dr. W. T. Dannreuther of New York and Dr. M. P. Rucker of Richmond. A symposium on Eclampsia was held, with Dr. R. A. Bartholomew of Atlanta, Dr. H. H. Ware, Jr., of Richmond, and Dr. Robert Seibels of Columbia, leading the discussion. Among those present from Georgia were Drs. J. R. McCord, R. A. Bartholomew, Walter Holmes, Marion T. Benson, John W. Turner and J. N. Brawner, Jr., of Atlanta; Drs. Richard Toppin, Robert Crichton and Joseph Akerman of Augusta; Dr. H. F. Sharpley, Jr., of Savannah, and Dr. O. R. Thompson of Macon.

THE NEW YORK POLYCLINIC MEDICAL SCHOOL AND HOSPITAL, New York City, sponsored a lecture by Dr. Russell L. Cecil on March 2nd on *Bacterial Endocarditis*: 1. Classification of Bacterial Endocarditis According to Etiology; 2. Description of the Various Types; 3. Relation to Focal Infection; 4. Clinical Course; 5. Prognosis and Treatment. At the February meeting of the Polyclinic Clinical Society the scientific program consisted of titles of addresses as follows: *Spinal Anesthesia*, by Dr. Thomas F. McLaughlin; *Modern Concepts on Addisonian or Macrocytic Anemia*, Dr. Lea A. Riley, Oklahoma State University. The discussion was opened by Dr. James P. Croce. *Clinical Review of Results of 241 Operations for Essential Hypertension*, by George W. Crile, Cleveland, Ohio; discussion opened by Dr. S. Philip Goodhart.

THE MEDICAL AND SURGICAL STAFF of the Georgia Baptist Hospital, Atlanta, met on February 15th. Dr. Newdigate M. Owensby spoke on the *Conclusive Treatment of Mental Disorders*. Dr. Lester Brown has charge of the clinico-pathological program. Dr. George W. Fuller is secretary.

THE COFFEE COUNTY MEDICAL SOCIETY met in Douglas on February 2nd. The annual report of Dr. T. H. Johnston, Douglas, Secretary-Treasurer for 1937, showed that eleven meetings had been held during the year and that one or more scientific papers had been read at each meeting. Dr. R. L. Johnson, Douglas, Coffee County Commissioner of Health, spoke on the plans for the health department and solicited the cooperation of the members of the Society. Two papers were read at the meeting of the Society on February 23.

THE TAYLOR MEMORIAL HOSPITAL, given to the city of Hawkinsville by Mr. R. J. Taylor of Macon, as a memorial to his father and grandfather, has been completed. When the equipment and furnishings are installed, the fifty thousand dollar hospital will be ready for operation. The following compose the medical staff: Dr. A. S. Batts, Dr. E. C. Brown, Dr. Albert R. Bush, all of Hawkinsville, et al.

THE CARROLL COUNTY MEDICAL SOCIETY met at the Carrollton Clinic on February 7. Dinner was served before the business meeting was held which preceded the scientific program.

DR. B. B. JONES, DR. R. L. KENNEDY and DR. W. D. KENNEDY, all of Metter, with others have filed a petition for charter to be incorporated under the name of Metter Hospital Company.

CHARTER HAS BEEN ISSUED to the Central Georgia Hospital Service Association. An official organization meeting was held at Dublin on February 10th. Officers elected were: Dr. A. T. Coleman, Dublin, President; Dr. C. G. Moye, Brewton, First Vice-President; Dr. R. S. Benson, Alamo, Second Vice-President; Dr. E. B. Claxton, Dublin, Chairman, Board of Directors; Dr. R. G. Ferrell, Jr., Dublin, Secretary-Treasurer.

DR. BENJAMIN BASHINSKI, Macon, spoke before a meeting of the P.-T. A. at Vineville, near Macon, February 10th, on *Prevention and Correction of Defects in Children*.

DR. O. H. CHEEK, Dublin, Laurens County Commissioner of Health, in a recent report stated that the incidence of hookworm disease had been reduced fifty per cent since 1914 and that the disease was yet too prevalent.

DR. I. S. WECHSLER, New York City, professor of Clinical Neurology, Columbia University College of Physicians and Surgeons, delivered the E. Bates Block Memorial Lecture at the Academy of Medicine, Atlanta, February 24th. He spoke on *Abdominal Syndromes in Diseases of the Brain*.

THE GEORGIA MEDICAL SOCIETY, Savannah, met on February 22nd. Dr. L. M. Freedman read a paper entitled *Sterility*; discussion led by Dr. E. C. Demmond and Dr. H. F. Sharpley, Jr. Dr. J. C. Metts reported a case, *Pituitary Dwarfism*; discussion led by Dr. J. K. Quattlebaum and Dr. E. T. Upson.

THE BALDWIN COUNTY MEDICAL SOCIETY met in the office of the medical staff at the Milledgeville State Hospital, Milledgeville, February 17th. Dr. W. F. Lorenz spoke on *Nervous and Mental Diseases*. Dr. Lorenz is making a survey of the state hospitals in Alabama, Georgia, Louisiana, and Tennessee.

A TABLET WAS UNVEILED as a tribute to the memory of Dr. Henry Rose Carter at the Malarial Research Laboratory in Savannah on February 8th. He was eulogized as a great scientist whose contributions to epidemiology and administrative public health service have made the South a better and safer place to live. Speakers on the program included Dr. Henry Rose Carter, Jr., Birmingham, Alabama; Dr. T. H. D. Griffiths, Savannah; Dr. E. C. Demmond, Savannah.

THE GEORGIA PUBLIC HEALTH ASSOCIATION met at the Biltmore Hotel, Atlanta, February 24, 25, 26. Titles of addresses and papers on the program with names of speakers and writers were: *Greetings*, by Dr. C. C. Aven, Atlanta, President, Fulton County Medical Society; *Educating the Public in Health Matters*, Dr. Geo. A. Traylor, Augusta, President, Medical Association of Georgia; *Symposium on Activities of the Health Department*, Dr. G. M. Anderson, Morgan; Mr. L. M. Clarkson, Atlanta; Mrs. Virginia Howkins, Atlanta; Dr. R. F. Payne, Atlanta. *Symposium on Malaria*, Dr. W. F. Castellow, Americus; Dr. T. H. D. Griffiths, Savannah. *Symposium on Hookworm*, Dr. W. L. Shepard McRae; Dr. T. F. Sellers, Atlanta. *Symposium on Typhus Fever*, Dr. A. G. Hendricks, Sylvester; Dr. G. J. Bridges, Millen; Dr. L. M. Petrie, Atlanta. *The Broadening Horizon of Health*, Dr. J. N. Baker, Montgomery, Ala. *Georgia's Cancer Control Program*, Dr. J. W. Schereschewsky, Atlanta; *Address*, Dr. M. V. Zeigler, Washington, D. C.; *The Need for Broadened Concept of the Public Health Problem*, Dr. C. E. Waller, Washington, D. C. *Symposium on Venereal Diseases*, Dr. S. C. Rutland, LaGrange; Dr. Jas. E. Paullin, Atlanta; Dr. M. E. Winchester, Brunswick. *Symposium on Maternal and Child Hygiene*, Dr. Martha Eliot, Washington, D. C.; Dr. R. H. Haralson, Tifton; Dr. R. B. Griffin, Sparta; Dr. E. R. Watson, Atlanta.

DR. INMAN SMITH, Trion, announces that his office will be moved to Rome on April 1st and practice limited to pediatrics.

THE REGULAR STAFF MEETING at St. Joseph's Infirmary, Atlanta, was held on February 22nd. Cases reported were: *Aleukemic Leucosis* by Dr. T. Sterling Claiborne; *Chronic Empyema*, Dr. Mason Lowance and Dr. W. A. Selman.

DR. HUGH YOUNG, Baltimore, Md., Professor of Urology, Johns Hopkins University School of Medicine, spoke before a meeting of the Fulton County Medical Society, Atlanta, February 25th on *Some Problems in Prostatic Surgery Including Prostates of Females*, and showed colored motion pictures of *Adrenal and Genital Operations in Hermaphrodites*.

DR. R. F. WHEAT, Bainbridge, was appointed to the State Board of Medical Examiners to fill an unexpired term and for a full term ending in September, 1942.

DR. T. I. WILLINGHAM, Atlanta, was elected chairman of the medical staff of the Atlanta Tuberculosis Association at its twenty-ninth annual meeting on February 17th. The annual report showed that 4,286 persons were cared for during 1937; 2,666 tests made; 1,906 x-rays taken; 1,733 pneumothorax treatments given; staff nurses made 17,593 visits to homes; and 1,399 clinics were held.

THE SPALDING COUNTY MEDICAL SOCIETY held its February meeting at the Strickland and Son Memorial Hospital, Griffin. Dr. Exum B. Walker, Atlanta, spoke on *Sciatica and Low Back Pains* and illustrated his address with lantern slides.

THE MACON MEDICAL SOCIETY of Bibb County met at Ridley Hall, Macon, March 1st. Dr. Harrold C. Atkinson read a paper entitled *Angina Pectoris and the Coronary Arteries*.

DR. CLAUDE GRIFFIN, Atlanta, formerly of Carrollton, has been appointed to succeed Dr. J. O. Elrod, deceased, on the State Board of Medical Examiners.

DR. Y. R. COLEMAN, formerly of Macon, has moved to Fayetteville and will continue the practice of medicine at his new location.

THE SURGICAL ASSOCIATION of the Atlanta and West Point Rail Road Company, Western Railway of Alabama and the Georgia Railroad will hold its Eighteenth Annual Meeting at the Biltmore Hotel, Atlanta, March 24, 1938. Titles of papers on the scientific program follow: *Management of Eye Injuries by the Local Surgeons*, Dr. M. F. Cochran, Newnan; discussion led by Eugene Callaway, Selma, Ala., and Dr. A. H. Stevens, Augusta. *Importance of Thorough But Gentle Treatment of Minor Cuts and Lacerations*, Dr. C. S. Jernigan, Sparta; discussion led by Dr. W. H. Clark, LaGrange, and Dr. W. D. Travis, Covington. *Importance of the Early Care of Injuries*, Dr. J. C. Blacklock, Atlanta; discussion led by Dr. Floyd W. McRae, Atlanta, and Dr. W. C. McGeary, Madison. *Address*, Dr. W. J. Lancaster, Wilmington, N. C., guest of the Association. *Reporting an Unusual Kidney Injury*, Dr. John P. Garner, Atlanta; discussion led by Dr. P. Y.

Donald, Selma, Ala., and Dr. K. E. Foster, College Park. *Conservative Surgery in Hand Injuries*, Dr. J. S. Holder, LaGrange; discussion led by Dr. C. S. Yarbrough, Auburn, Ala., and Dr. J. L. Porter, Rutledge. *Surgical Management of Head Injuries* (President's address), Dr. Richard Binion, Milledgeville; discussion led by Dr. Ed F. Fincher, Atlanta, and Dr. J. G. Palmer, Opelika, Ala. *Sulfanilamide in Genito-Urinary Tract Infections*, Dr. Montague L. Boyd, Atlanta; discussed by Dr. Carter Smith, Atlanta, and Dr. J. Weyman Davis, Athens. *Syphilis*, Dr. O. C. Wenger, Hot Springs, Ark., guest of the Association, U. S. P. H. S. *Hypertension*, Dr. V. P. Sydenstricker, Augusta; discussion led by Dr. Cliff Saul, Atlanta, and Dr. W. W. Harper, Selma, Ala. *Results of Roentgen Therapy in Essential Hypertension*, Dr. F. P. Boswell, Montgomery, Ala.; discussion led by Dr. L. P. Holmes, Augusta, and Dr. R. H. Fike, Atlanta. *Fracture—Dislocation of the Shoulder*, Doctors Lawson Thornton and Calvin Sandison, Atlanta; discussion led by Dr. H. M. Michel, Augusta, and Dr. Harry Moses, Macon. Luncheon speakers include: Dr. Eugene E. Murphey, Augusta; Dr. Geo. A. Traylor, Augusta, and Dr. Ed H. Greene, Atlanta. Dr. J. R. Garner, Atlanta, is chief surgeon of the three railroads; Dr. John P. Garner, Atlanta, is assistant chief surgeon. Officers of the Association are: Dr. Richard Binion, Milledgeville, president; Dr. R. H. Fike, Atlanta, vice-president, and Mrs. R. E. Cooper, secretary-treasurer.

THE RANDOLPH COUNTY MEDICAL SOCIETY met at the Patterson Hospital, Cuthbert, March 3rd. Dr. L. R. Massengale, Lumpkin, made report on three cases.

DR. LEO SMITH, Waycross, has been appointed to the State Board of Medical Examiners.

DR. HOMER H. ALLEN, Decatur, spoke before a public meeting at the Ponce de Leon School, Atlanta, March 3rd on *More Adequate Health Laws and Hospitalization for DeKalb County*.

COUNTIES REPORTING FOR 1938

Clarke-Madison-Oconee Counties Medical Society

The Clarke-Madison-Oconee Counties Medical Society announces the following officers for 1938:

President—John A. Simpson, Athens.
Vice-President—W. H. Cabaniss, Athens.
Secretary-Treasurer—Henry C. Holliday, Athens.
Delegate—J. W. Davis, Athens.
Alternate Delegate—G. W. Kelly, Carlton.

Colquitt County Medical Society

The Colquitt County Medical Society announces the following officers for 1938:

President—A. G. Funderburke, Moultrie.
Vice-President—J. B. Woodall, Moultrie.
Secretary-Treasurer—J. R. Paulk, Moultrie.
Delegate—C. C. Brannen, Moultrie.
Alternate Delegate—R. M. Joiner, Moultrie.

Ocmulgee Medical Society

(Bleckley, Dodge, Pulaski)

The Ocmulgee Medical Society announces the following officers for 1938:

President—A. R. Bush, Hawkinsville.
Vice-President—J. C. Wall, Eastman.
Secretary-Treasurer—I. J. Parkerson, Eastman.
Delegate—I. J. Parkerson, Eastman.
Alternate Delegate—H. T. Adkins, Cochran.

Gordon County Medical Society

The Gordon County Medical Society announces the following officers for 1938:

President—W. R. Barnett, Calhoun.
Secretary-Treasurer—Z. V. Johnston, Calhoun.
Delegate—Z. V. Johnston, Calhoun.
Alternate Delegate—W. B. Barnett, Calhoun.

Polk County Medical Society

The Polk County Medical Society announces the following officers for 1938:

President—S. L. Whitely, Cedartown.
Vice-President—C. V. Wood, Cedartown.
Secretary-Treasurer—John M. McGehee, Cedartown.
Delegate—H. R. Perkins, Rockmart.
Alternate Delegate—John M. McGehee, Cedartown.

Walker-Catoosa-Dade Counties Medical Society

The Walker-Catoosa-Dade Counties Medical Society announces the following officers for 1938:

President—D. W. Hammond, LaFayette.
Vice-President—S. B. Kitchens, LaFayette.
Secretary-Treasurer—Richard V. Shepard, LaFayette.
Delegate—B. C. Hale, Rossville.
Alternate Delegate—Fred L. Webb, Ft. Oglethorpe.
Censors—B. C. Hale, S. B. Kitchens and H. F. Shields.

Walton County Medical Society

The Walton County Medical Society announces the following officers for 1938:

President—T. R. Aycock, Monroe.
Secretary-Treasurer—W. H. Lott, Monroe.

Richmond County Medical Society

The Richmond County Medical Society announces the following officers for 1938:

President—Robert C. McGahee, Augusta.
Vice-President—Irvine Phinizy, Augusta.
Secretary-Treasurer—Thos. W. Goodwin, Augusta.
Delegate—W. J. Cranston, Augusta.
Delegate—L. P. Holmes, Augusta.
Alternate Delegate—G. Lombard Kelly, Augusta.
Alternate Delegate—Joseph Akerman, Augusta.
Censors—L. P. Holmes, G. Lombard Kelly and Edgar R. Pund.

Coffee County Medical Society

The Coffee County Medical Society announces the following officers for 1938:

President—Sage Harper, Ambrose.
Vice-President—I. W. Moorman, Douglas.
Secretary-Treasurer—H. J. Goodwin, Douglas.
Delegate—J. W. Wallace, Douglas.
Alternate Delegate—T. H. Clark, Douglas.

South Georgia Medical Society

(Berrien-Clinch-Cook-Echols-Lanier-Lowndes Counties)

The South Georgia Medical Society announces the following officers for 1938:

President—J. R. Smith, Hahira.

Vice-President—P. H. Askew, Jr., Nashville.
 Secretary-Treasurer—A. M. Johnson, Valdosta.
 Delegate—H. W. Clements, Adel.
 Alternate Delegate—A. F. Saunders, Valdosta.

Brooks County Medical Society

The Brooks County Medical Society announces the following officers for 1938:

President—Harry A. Wasden, Quitman.
 Secretary-Treasurer—M. E. Groover, Quitman.
 Delegate—J. R. McMichael, Quitman.
 Alternate Delegate—M. E. Groover, Quitman.

Upson County Medical Society

The Upson County Medical Society announces the following officers for 1938:

President—B. L. Bridges, Thomaston.
 Vice-President—J. W. McCurdy, Thomaston.
 Secretary-Treasurer—Jno. D. Blackburn, Thomaston.
 Delegate—R. L. Carter, Thomaston.
 Alternate Delegate—J. E. Garner, Thomaston.

Rockdale County Medical Society

The Rockdale County Medical Society announces the following officers for 1938:

President—P. J. Brown, Conyers.
 Vice-President—P. S. Smith, Conyers.
 Secretary-Treasurer—H. E. Griggs, Conyers.
 Delegate—H. E. Griggs, Conyers.

Jefferson County Medical Society

The Jefferson County Medical Society announces the following officers for 1938:

President—John J. Pilcher, Wrens.
 Vice-President—S. C. Kitchen, Louisville.
 Secretary-Treasurer—S. T. R. Revell, Louisville.
 Delegate—John J. Pilcher, Wrens.

Laurens County Medical Society

The Laurens County Medical Society announces the following officers for 1938:

President—R. G. Ferrell, Jr., Dublin.
 Vice-President—J. J. Barton, Dublin.
 Secretary-Treasurer—J. A. Bell, Jr., Dublin.
 Delegate—O. H. Cheek, Dublin.
 Alternate Delegate—J. A. Bell, Jr., Dublin.
 Censors—O. H. Cheek, J. E. New and W. C. Thompson.

OBITUARY

Dr. Robert L. Hope, Atlanta; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1881; aged 78; died suddenly at his home, 1840 Piedmont Road on February 25, 1938. He was born in Dawsonville and moved with his parents to Atlanta when ten years of age, and received his literary education in the city schools. Dr. Hope was physician for Fulton county for 29 years, from 1880 to 1909, when ill health forced him to retire. He was interested in the public schools and was a leader in securing a site for a school in the Buckhead district which was named for him. He served during 1904-5 as president of the Fulton County Board of Education. In addition to his civic activities, he was superintendent of the Rock Springs Presbyterian church Sunday school, and elder in the church

for many years, until about 1917; since and until the time of his death, was elder in the Westminster Presbyterian church. Surviving him are his widow; two daughters, Mrs. C. C. Scruggs, Atlanta, and Mrs. John F. Davidson, Fort Worth, Texas; three sons, Dr. H. F. Hope, Lucian W. Hope and Henry M. Hope, all of Atlanta.

Dr. William Daniel Sheppard, Commerce; Bellevue Hospital Medical College, New York, N. Y., 1893; died at his home after an illness of several months duration on January 3, 1938. He was a native of Banks county, received his common school education at Commerce. After graduating in medicine, he practiced for many years, then retired from practice and devoted his time to business enterprises. At the time of his death he was president of the Sitticide Company; vice-president of the Commerce Manufacturing Company; director in the First National Bank of Commerce; and stockholder of the First National Bank of Atlanta; and in addition owned extensive farming interests. He was a prominent citizen and a leader in the Methodist church where he had served on the Board of Stewards for thirty years. Surviving him are his widow, one daughter, Miss Mary Sheppard; one son, Dan Sheppard. Rev. J. O. Brand conducted the funeral services from the Methodist church.

Dr. Higgerson Matherson Sale, Sharon; member; University of Georgia School of Medicine, Augusta, 1900; aged 67; died at his home after an illness of several months duration on February 1, 1938. He was a native of Lincoln county. Until four years ago, he resided at Rayle and practiced over an extensive territory. Dr. Sale was charitable, public spirited and one of the State's best citizens. He was a member of the Wilkes County Medical Society and the Sardis Baptist church. Surviving him are his widow, one daughter, Miss Nancy Sale, Augusta; two sons, Oliver Sale, Atlanta, and Thomas Sale, Sharon. Dr. D. V. Cason and Rev. J. Foster Young conducted the funeral services at the graveside. Burial was in Rest Haven cemetery.

Dr. Joshua B. Thurman, Atlanta; Bellevue Hospital Medical College, New York City, 1886; aged 80; died in a private hospital on January 31, 1938. He was a native of Locust Grove and a graduate of Mercer University. He practiced medicine in Atlanta for about fifteen years until he retired ten years ago. Dr. Thurman was a member of the Capital View Methodist church. Surviving him are his widow; five daughters, Mrs. M. A. Ezell, Louisville, Ky.; Mrs. R. E. Lyle, Mrs. T. D. Irby, Mrs. C. R. Chewning and Miss Sallie Jo Thurman, all of Atlanta; four sons, L. H. Thurman, Madison, Fla.; H. T. Thurman, Savannah; C. B. and J. O. Thurman, Atlanta. Rev. B. F. Mize and Rev. Frank Adams conducted the funeral services from the Howard L. Carmichael chapel. Burial was in Cedar Rock cemetery, near Jackson.

HYGEIA REQUEST

Mrs. J. Lon King, state chairman of Hygeia, asks that all county presidents send to her at 223 Burford Place, Macon, the number of subscriptions her Auxil-

iary has been able to secure. Report time will soon be here and she earnestly desires to include all the work done for this important part of Auxiliary objectives.

BOOK REVIEWS

Gould's Medical Dictionary, 4th Edition. 273 illustrations, flexible fabrikoid covers. \$7.00. With Thumb index, \$7.50. This is a very complete dictionary of medical terms, as well as terms of allied sciences such as bio-chemistry. There are many older definitions as well as the new words in current use. In fact, this book aims to give a complete survey of medical terminology for use of practitioners, teachers, medical writers and students. The book contains a dose-list brought up-to-date as well as standard tables of nerves, muscles, bones, arteries, etc. It contains tables of weights and measures; interesting biographies and pictures of famous physicians. The table of prefixes and suffixes is of special value as an aid to the physician or student in deciphering medical words. The pronunciation of each word is given in simple, English phonetics; the derivations are shown, and a concise, intelligible definition of each word has been given. Published by P. Blakiston's Son & Co., Inc., 1012 Walnut St., Philadelphia, Pa.

The Pneumonokonioses (Silicosis). Literature and Laws, Book III. Pp. 1033, Chicago Medical Press, Chicago, Ill., 1937, cloth. By George G. Davis, M.D., Ella M. Salmonsens and Joseph L. Earlywine. This is a most formidable work and scarcely one to be used for such light reading as medical browsing. It constitutes a most exhaustive survey of the pneumonokonioses and allied diseases and subjects. It should be invaluable to the student of these disorders, as well as to the physician seeing many of these industrial patients. As a reference work on the pneumonokonioses, it serves its greatest purpose; and for the lawyer as well as the doctor in this regard. The world's current literature is reviewed and arranged in a very convenient alphabetical manner. A full subject and authors' index is also included, making for a ready reference to any phase of the book most accessible. The latter 130 pages are devoted to the laws relating to these and other industrial diseases. Not only the laws of each state in the union, but those of the different foreign countries, are given. Because of the encyclopedic nature of the work, there can be given in its review no comments on the views expressed and points brought out. These are legion and vary with the different observers, and in the different places on the globe. Suffice to say that nothing of importance on the subject is omitted. With the advent of the tremendous importance of silicosis in industrial medicine, the handy reference to this very comprehensive study of the subject, would be of paramount value.

CHAMP H. HOLMES, M.D.

Cancer and Diet: With Facts and Observations on Related Subjects, by Frederick L. Hoffman, LL.D., The Biological Research Foundation of the Franklin Institute, Philadelphia, Williams and Wilkins, Baltimore, 1937. Price \$5.00. Dr. Hoffman has displayed, to a marked degree, his usual painstaking methods in research and his respect for facts as related to the subject matter contained in his book. In the first 117 pages he gives an historical review of "Dietary Theories of

Cancer" and concludes that cancer is profoundly affected by diet and nutrition. He expresses the hope that this work may become the background for more satisfactory research.

He devotes the next 78 pages to a consideration of "Modern Diets" in their relation to body nutrition, and states that he has come to the conclusion that the great increase in cancer deaths during the last century must be due to the "profound changes in dietary habits and the unnatural conditions" now existing in urban communities and, to a less extent, in rural districts.

The third section has to do with "Cancer Metabolism." He states that the artificially preserved and prepared food consumed by our city people, where the density of population is greatest, undoubtedly affects the cell growth and cell behavior. He discusses the influence of every variety of food on the animal organism, with the idea in view that improper food must affect not only the cell growth but the cell behavior; therefore, as cancer is the result of cell misbehavior, food and environment must certainly play an important role in the development and growth of malignant tumors.

Section 4 presents a statistical study of the relation of food to cancer with the proper number of controls being observed. These statistics are handled with the skill that only Dr. Hoffman has. His tables and charts are splendidly arranged, yet it would seem that the facts thus developed are not sufficient to convict any special groups of food. One must, nevertheless, agree that the corpulent, well-fed, and indolent individual is more susceptible to internal cancer than the one who eats a moderate diet and earns a living by the sweat of the brow. This, however, is not true of skin cancer. It is far more frequent on those exposed to wind and rain, sunshine, heat and cold.

If we cannot agree with Dr. Hoffman 100 per cent we must say that his book is well worth the price for its analysis of the various foods and their vitamin contents with their general effect on the animal organism. Furthermore, we agree with him in his desire that the perusal of this book may inspire someone to enter a new line of research and discover the true cause of cancer.

J. L. CAMPBELL, M.D.

The Year Book of General Therapeutics (1936), by Bernard Fantus, M.D. The Year Book Publishers, Chicago. This book, which is revised each year, reveals the new developments in therapy. This, the nineteen thirty-six issue, maintains the high standards set by its predecessors. While each subject is presented briefly and concisely, all of the essentials are retained. Directions as to dosage, manner of application, etc., are specific. The book is small, the type easily readable, and the index adequate. It is recommended to those who wish to keep abreast of the latest developments in therapy.

C. M. WEST, M.D.

The American Association for the Study of Neoplastic Diseases will meet at Emory University, Atlanta, April 14, 15, 16, 1938. Those who are interested in studying neoplastic diseases and malignancies should attend the meetings and bring their microscopes. There will be no registration fee.

FIFTH DISTRICT MEDICAL SOCIETY MEETING

Thursday, March 31, 1938
Academy of Medicine
38 Prescott Street, N. E.
Atlanta

PROGRAM

6:00 P. M. Buffet Supper

Given in honor of the Society and guests by the Woman's Auxiliary to the Fifth District Medical Society.

7:00 P. M. Scientific Meeting

1. Address of Welcome.
C. C. Aven, M.D., Atlanta, President, Fulton County Medical Society.
2. Surgical Treatment of Hypertension.
Dean H. Echols, M.D., New Orleans, La., Instructor in Surgery in Charge of Neuro-Surgery, Tulane University of Louisiana School of Medicine.
Discussion
Edgar F. Fincher, M.D., Atlanta.
3. Exploitation.
George A. Traylor, M.D., Augusta, President, Medical Association of Georgia.
4. Recent Advances in the Serology of Syphilis with Special Reference to the Application of the Kline Finger Blood Test in Routine Practice.
Charles F. Rein, M.D., New York City, Special Consultant Serologist, U. S. P. H. S.; Attending Dermatologist and Syphilologist, New York Post-Graduate Medical School and Hospital, Columbia University, New York
Discussion
Roy R. Kracke, M.D., Atlanta.
5. Surgical Treatment of Empyema.
B. N. Carter, M.D., Cincinnati, Ohio. Professor of Surgery and Chief of Chest Surgery Service, University of Cincinnati College of Medicine.
Discussion
Daniel C. Elkin, M.D., Atlanta.
6. Business.

THORACIC SURGEONS MEET IN ATLANTA

The annual meeting of the American Association for Thoracic Surgery will be held in Atlanta at the Biltmore Hotel, April 4th, 5th and 6th. This organization represents one of the new specialties in surgery and numbers among its members many pioneers in chest surgery. This is the first time the association has met in the South. Dr. Stuart Harrington, of the Mayo Clinic, is president, and Dr. Richard H. Meade, Jr., of Philadelphia, is secretary. The local Committee of Arrangements consists of Drs. Frank K. Boland, T. C. Davison and Dan C. Elkin.

While membership in the association is limited to 150 members all members of the medical profession are invited to attend the sessions at the Biltmore Hotel. On the program this year will be papers by Dr. I. A. Bigger, of the University of Virginia, on *Penetrating Wounds of the Heart; Bronchial Obstruction*, by Dr.

C. A. Jackson, of Philadelphia, and *Mediastinal Tumors*, by Dr. Evarts A. Graham, of St. Louis.

A feature of the meeting will be a symposium on the Surgical Treatment of Pulmonary Tuberculosis in which papers will be presented by Dr. E. J. O'Brien, Detroit; Dr. P. N. Coryllos, of New York City; Drs. R. H. Overholt and E. D. Churchill, of Boston. Mr. J. E. H. Roberts, of London, England, has been invited to speak on the subject *The Treatment of Pulmonary Tuberculosis*.

Entertainment will include a banquet at the Biltmore Hotel and a barbecue at the Druid Hills Golf Club.

FOREST HILLS HOTEL, AUGUSTA

The words "it's got everything" may sound like a song title but they just about cover the multitude of attractions at the Forest Hills Hotel in Augusta, scene of the annual meeting of the Medical Association of Georgia, April 26-29.

Set in a 600 acre tract of cathedral pines, the hotel looks out on every side on gently rolling hills but most eyes turn naturally to the beautiful 6,600 yard championship golf course a scant few steps from the hotel's doors. With fairways extending through aisles of pines, the course is acknowledged one of the most beautiful in the South, and in the words of O. B. Keeler, one of the nation's most prominent golf writers, "will stand comparison with anything in the South, and for conformation and testing properties will not suffer by comparison anywhere."

In addition to playing on the championship course, devotees of King Golf can practice on a driving range accommodating a score of players, test their short game on a nine hole pitch and putt course, or brush up on their putting on a regulation practice green or the 18 hole Scotch putting course, all on the hotel grounds. For that 19th hole "diversion" there is Mickie's House, the club house and pro shop, presided over by Mickie Gallegher, the club professional, whose Irish grin alone is a tonic for those coming in from a bad round. The club house has complete locker room facilities in addition to a bar and lounge rooms. In the hotel also are locker room accommodations complete with shower baths.

Situated as it is, just outside the city limits, yet within 15 minutes driving distance of the downtown section, the hotel is ideal for convention and committee meetings. The ballroom on the lobby floor will accommodate several hundred and can be shut off for complete privacy. There are several rooms available for meetings of smaller groups.

Returning to sports and recreation, the Forest Hills stables are stocked with fine horses, and there are miles of bridle paths winding through the hotel estate.

Informality is the rule in the Magnolia Room of the hotel where golfers and sportsmen can gather for luncheon or dinner. The entrance to the Magnolia Room is only a few steps from the golf course and it is necessary to go through the hotel to reach it. Adjoining the Magnolia Room is the cocktail lounge and bar.

All in all, members of the Medical Association will find the Forest Hills a perfect place to gather on April 26-29 for the two-fold purpose of transacting Asso-

ciation business and having an old fashioned "good time."

MENTAL EFFECTS OF "BENZEDRINE SULFATE"

Molitch and Sullivan (*Am. J. Orthopsych.*, 7:519, Oct., 1937) report on the mental effects of "Benzedrine Sulfate" (benzyl methyl carbinamine sulfate, S.K.F.).

The New Stanford Achievement Test was given to a group of 96 boys aged 10 to 17. A week later the same boys took the test again about 1½ hours after 50 of them had received a 10 mg. "Benzedrine Sulfate" tablet and the remaining 46 a placebo.

The 46 boys on placebos scored a net loss of 29 points, while the 50 boys on "Benzedrine Sulfate" scored a net gain of 63 points, although 26 of the 50 did not show noticeable improvement. Some weeks later these 26 received 20 mg. (or double the previous dose) for a third test. Twenty-four of these boys, or 92 per cent, improved their scores with a net gain of 117 points.

The greatest responses were noted in language usage, geography, physiology and hygiene, and arithmetic. Normals of average intelligence and feeble-minded boys responded better than normals of inferior intelligence. Grouped according to academic age, it was found that the boys in junior high school showed greater improvement on "Benzedrine Sulfate" than those in lower grades.

Reactions were mild and transitory, although hypersensitivity to "Benzedrine Sulfate" induced nausea in the cases of the two boys who failed to respond even to the double dose of "Benzedrine Sulfate."

THE SCHOOL-CHILD'S BREAKFAST

Many a child is scolded for dullness when he should be treated for undernourishment. In hundreds of homes a "continental" breakfast of a roll and coffee is the rule. If, day after day, a child breaks the night's fast of twelve hours on this scant fare, small wonder that he is listless, nervous, or stupid at school. A happy solution to the problem is Pabulum, Mead's Cereal cooked and dried. Six times richer than fluid milk in calcium, ten times higher than spinach in iron, and abundant in vitamins B and G, Pabulum furnishes protective factors especially needed by the school-child. The ease with which Pabulum can be prepared enlists the mother's co-operation in serving a nutritious breakfast. This palatable cereal requires no further cooking and can be prepared simply by adding milk or water of any desired temperature. Its nutritional value is attested in studies by Crimm *et al* who found that tuberculous children receiving supplements of Pabulum showed greater weight-gain, greater increase in hemoglobin, and higher serum-calcium values than a control group fed farina.

Mead Johnson & Company, Evansville, Indiana, will supply reprints on request of physicians.

EFFECTS OF "BENZEDRINE SULFATE" ON PROBLEB CHILDREN

Bradley (*Am. J. Psych.* 94:577, Nov., 1937) reports on the effects of "Benzedrine Sulfate" (benzyl methyl carbinamine sulfate, S.K.F.) administered to a

group of 30 "problem" children, aged 5 to 14 years, under very favorable conditions.

The children chosen for the study manifested various behavior disorders, ranging from specific educational disabilities to the retiring schizoid type and the aggressive, egocentric epileptic. They were observed, without subjective questioning, by a special psychiatric nurse for a period of 3 weeks. Each child received a daily morning dose of "Benzedrine Sulfate" during the second week, the first and third weeks being regarded as control periods. Twenty mg. was the usual dose, but this varied according to the individual.

Although these children had been receiving the usual intensive training available at the Bradley Home, 14 of them, or 47 per cent, promptly "responded in a spectacular fashion" to "Benzedrine Sulfate" therapy, showing marked improvement in speed of comprehension and accuracy of performance, together with a keen desire for accomplishment. Eight others showed some improvement. In all cases improvement disappeared the first day therapy was discontinued.

In emotional response, 15 children, or 50 per cent, became subdued. Seven of these were of the erratic and aggressive type, and the author suggests that "Benzedrine Sulfate," by stimulating the higher centers, may increase voluntary control in such cases. Seven other children reported a definite euphoria. The remaining 8 had varied responses. One case of agitation and two cases of anxiety were observed.

In spite of the "attractive results obtained . . . and the apparent low toxicity of the drug," the author concludes that it is too early definitely to recommend "Benzedrine Sulfate" in the general treatment of pediatric behavior problems, and that additional studies should be made in this field.

HYPNOTIC DRUGS

The "sleeping potions" of an earlier day were often linked with evildoing, and plants having hypnotic powers were regarded with superstitious fear. Shakespeare mentions the shriek which was said to emanate from the mandrake (*mandragora officinarum*) as its roots were torn from the earth and which caused all mortals who heard to run mad.

Hypnotic drugs, now thoroughly understood, have become an integral part of modern therapy. Quiet, restful sleep is procurable through the use of "Amytal" (Iso-amyl Ethyl Barbituric Acid, Lilly), and the drug is given with a feeling of safety based upon its broad background of clinical use.

HONOR ROLL FOR 1938

1. Randolph County, Dr. W. G. Elliott, Cuthbert, September 27, 1937.
2. Dougherty County, Dr. I. M. Lucas, Albany, December 22, 1937.
3. Tattnall County, Dr. J. M. Hughes, Glennville, January 14, 1938.
4. Monroe County, Dr. G. H. Alexander, Forsyth, March 5, 1938.



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ACUTE INFECTIOUS DISEASES OF THE NERVOUS SYSTEM*

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Atlanta

The acute disseminated diseases of the nervous system are so heterogeneous in nature, differ so widely in their clinical course, etiology, and histologic changes produced, that an acceptable classification is extremely difficult. However, if any therapy is to be attempted, it is essential that some sort of classification be adopted. To begin with, they can be divided according to the structures principally involved, that is: (1) diseases involving predominantly the supporting structures; (2) diseases involving essentially the functioning structures.

The first group includes cases of acute toxic encephalitis (or encephalopathy) in which the histologic changes are chiefly proliferative phenomena in the vascular system. Such alterations have been described in association with demonstrable foci of severe infection, and generalized infections such as the septicemias. Similar changes are found in lead, arsenic, and manganese poisoning, and in other intoxications.

The second major group includes: (a) diseases implicating primarily the gray substance, i.e. acute polioclastic encephalitis or encephalomyelitis and which are characterized by perivascular lymphocytic infiltration. Examples of this type are: rabies, poliomyelitis, epidemic encephalitis and zoster. There can be little doubt that diseases of this group are incited by virus invasion of the nervous system. This has been definitely established for rabies and poliomyelitis, and there is sufficient evidence to warrant the general belief that epidemic encephalitis is a virus disease in

spite of the fact that this has not been definitely proven.

Levaditi has presented very compelling reasons for indicting the herpes virus as the agent responsible for epidemic encephalitis. On the other hand, such outstanding investigators as Neal, Rivers and Flexner offer equally convincing evidence that such is not the case. Most workers feel that there is sufficient evidence for regarding herpes as probably due to a virus infection, but that it is the causative agent of epidemic encephalitis is yet to be determined.

In contrast with this group are: (b) diseases involving chiefly the white substance, i.e. myeloclastic encephalitis or encephalomyelitis. This constitutes the largest group and the group about which there has been most dissension. Included in this group are multiple sclerosis with its small patches of demyelination and chronic course on one end of the spectrum, and encephalitis periaxilis diffusa of Schilder, with its more widespread demyelination and more acute course, on the other end of the spectrum. In the middle is the large group of so-called acute disseminated encephalomyelitis, including both the spontaneous types and those developing during or immediately following the acute exanthemas or vaccines utilized in combating them. Between the central group of the acute disseminated myelitis and multiple sclerosis on the one hand, and Schilder's encephalitis on the other, are found innumerable transitional types which resemble more the one or the other, both as to the clinical course and the histologic changes, although in general the central group runs a far more acute course than either.

The present discussion concerns chiefly this central group of acute disseminated—presumably spontaneous infectious—myelitis and allied disorders. Much work has been done in an effort to differentiate the post-infectious

*Read before the Medical Association of Georgia, Macon, May 13, 1937.

types from the so-called spontaneous types. It is unquestionably true that certain differences do exist. In the post-infectious group, the onset usually is more stormy, death or recovery occurs in a comparatively short time, and residuals are more apt to occur. Pathologically, changes in the post-infectious group tend to be more definitely perivascular; but often in cases of the one are found the supposed histologic peculiarities of the other. On the whole, the similarities between the two are more striking than the differences. It is believed by some that the incitant or incitants are essentially the same in both. In the spontaneous group under consideration, it has been assumed that they are caused by a virus invasion of the nervous system. Clinically, they resemble more closely cases described as acute disseminated myelitis, spontaneous or post-infectious, in which pathologic changes have been those of perivascular infiltration and demyelination. One of the strongest arguments against the virus nature of such demyelinating processes has been presented by Rivers. In his own experience and from the evidence in the literature, there is no authentic instance of a known virus acting directly on the nervous system which produces demyelination. In diseases that are known to be incited by virus infection, e.g., rabies and poliomyelitis, such demyelination is not found. Thus, if such processes are caused by a virus, the agent is unknown, is different, and the disease has not been produced experimentally. Rivers offers for consideration that such diseases may be caused by the indirect action of the virus, may be toxic, allergic, due to vitamin deficiency, action of enzymes, or to constitutional defects.

On the other hand, the relatively acute course of these cases leads one to believe that they must be either toxic or infectious in origin. In none of these cases was there any history of exposure or evidence of the presence of exogenous toxins. The clinical course in response to therapy is also evidence in favor of an infectious basis rather than toxic. Thus, if these are infectious in nature, it seems that they are most likely bacterial or virus. In no case was there any evidence of septic foci. Treatment in these cases was based on the assumption that it was an infectious process, probably virus in nature, and that in general

virus infections do not evoke the strong defense reaction on the part of the body that bacterial infections generally do. For these reasons, in patients that were seen early, i.e., within the first two weeks, forced spinal drainage was employed with the idea of eliminating the infection, toxins, and exudate from the perivascular spaces before infection became firmly implanted. It was observed that such treatment was of little or no benefit during the later stages. It was assumed that once infection was firmly implanted, i.e. after two to three weeks, it was necessary to stimulate the defensive mechanism of the body. For this reason, non-specific fever therapy was employed in the later stages.

The first group to be considered is epidemic encephalitis. Although this involves chiefly the gray substance, it is selected because there is little doubt as to the virus nature of the malady and because of the comparative therapeutic response.

Group A-1

Case 1. B. E. M., a white male, aged 20, was admitted to the hospital Oct. 6, 1933, on the fourth day of his illness.

The patient first complained of a sore throat, associated with headache. Following this, there was increasing drowsiness, to the point that he was sleeping constantly when not disturbed.

Physical Examination: The patient was sleeping soundly, but could be aroused with little difficulty. He seemed fairly alert mentally, but when left alone immediately went back to sleep. There was slight stiffness of the neck; slight haziness of the disk margins. There was ptosis of the right lid and defective upward conjugate deviation of the eyes. No other neurologic findings were noted.

Spinal Fluid: Cells 7.

On the seventh day of the illness, the patient was given forced spinal drainage. On the eighth day, he appeared more responsive. On the ninth day, he received forced spinal drainage. On the eleventh day, he was completely alert; and was discharged on the twenty-eighth day, apparently perfectly normal.

Case 2. P. A., a white male, aged 33, admitted to the hospital March 31, 1934, on the eighth day of his illness.

The onset was with coryza and pain in the back of the neck. This was followed shortly by increasing drowsiness and twitching of the neck muscles.

Physical Examination: The patient was stuporous, but could be aroused and was fairly alert. The patient was unable to converge. There was horizontal nystagmus. There were myoclonic twitchings of the sternomastoids and both arms at the rate of 30 per minute.

Spinal Fluid: Cells 20; globulin positive; sugar 100 mg.

He received forced spinal drainages on the fourteenth and sixteenth days of illness. On the eighteenth day, temperature was normal, he was clearer mentally, and seemed to feel quite well. Thereafter, improvement was rapid, although the myoclonus persisted and was accompanied by discomfort in the involved muscles. Beginning on the twenty-ninth day of the illness, he received four injections of typhoid vaccine intravenously with good febrile reactions.

He was discharged on the forty-sixth day, apparently entirely well except for the myoclonus, which had improved.

Examination two years later found the patient apparently entirely well. There was no evidence of myoclonus.

Case 3. N. B., a white girl, aged 17, was admitted to the hospital March 18, 1934, on the eighteenth day of her illness. The illness began with headache and occasional vomiting. Within a few days, she had developed myoclonic twitching of the arm and neck muscles. For two weeks preceding admission, she had appeared confused mentally and talk was flighty.

Physical Examination: The patient was very drowsy. There was spontaneous vertical nystagmus, with diplopia. Myoclonic twitchings were present in the right sternomastoid and the extended arms.

Spinal Fluid: Cells 4; globulin, faint trace; sugar 60 mg.

The patient was given forced spinal drainage on the thirty-sixth and thirty-eighth days of illness. On the forty-third day of the illness, she appeared much clearer mentally, and the nystagmus had practically disappeared. However, the myoclonic twitchings were still present, and she had developed a respiratory tic synchronous with the myoclonic twitchings of the sternomastoid. Beginning on the forty-ninth day, she was given nine injections of typhoid vaccine intravenously, with good febrile response. On the sixty-second day, she received forced spinal drainage.

Four months after the onset of illness, there was no cranial nerve involvement, but she presented a picture of a mild Parkinson's syndrome. The myoclonus had become less pronounced.

Examination two years later revealed slight increase in the intensity of the Parkinson's syndrome; but myoclonus had entirely disappeared except for an occasional twitching of the right arm.

From the results of these three cases of epidemic encephalitis, it appears that if forced spinal drainage can be instituted early enough, excellent results are to be anticipated. The longer the duration of the process, the less benefit is obtained. After several weeks, fever therapy has brought about considerable improvement, and the earlier this is instituted, the better the results.

In the second case, in which fever therapy was begun within about four weeks, recovery was complete. In the third case, in which it was begun at the end of about seven weeks,

there was marked improvement, but the patient was left with residuals.

Group B

The cases in this group are classified according to the part of the nervous system predominantly involved, i.e. myelitis, myelodradiculitis, neuronitis. It is felt that it is of more importance to recognize the infectious nature of the process and similar etiology rather than to classify them into this or that group according to the part of the nervous system involved. It is an infectious process that in one person may involve one part and in another a different part. The following are presented according to their clinical types.

B-1 Myelitis.

Case 1. J. B. N., a white boy, aged 10, was examined Dec. 6, 1930, on the seventh day of the illness.

The onset of the illness was with weakness in the right foot. Within a few hours, both legs were numb and so weak that he was unable to walk without assistance. This was accompanied by a loss of sphincter control. Within three days, however, improvement began; and when examined on the seventh day, the patient was able to walk alone.

Physical Examination: No cranial nerve involvement was present. There was weakness of both legs, especially on the right, associated with slight increase of tone. Tendon jerks in the arms active and equal; in the legs very brisk; plantars extensor; abdominals active and equal. Sensory: slight impairment of joint position sense in the right toes.

On the eighth day, the patient had regained sphincter control and was discharged on the tenth day, practically recovered.

No therapeutic regimen was instituted.

Case 2. H. W. G., a white male, aged 24, was examined July 16, 1936, on the twelfth day of the illness.

The patient first complained of headache, followed shortly by numbness and weakness of the lower extremities, and sharp pains in the legs. During the first few days, he had vomited a number of times. On the second day of illness, he had become incontinent of urine.

Physical Examination: Slight stiffness of the neck; no Kernig. Cranial nerves: disk margins hazy, about 1 or 2 diopters elevation; veins full and tortuous. Other cranial nerves apparently intact. Motor: flaccid paralysis of both legs. Tendon jerks, active in the arms; not obtained in the legs. Indefinite sensory level at twelfth thoracic.

Spinal Fluid: Cells 28; globulin strongly positive; sugar 40 mg.; Wassermann Q.N.S.

On the fifteenth and twenty-second days, the patient received forced spinal drainages. On the nineteenth day, pain had disappeared. On the twenty-third day, slight movement of the legs was possible. On the twenty-seventh day, he was able to move his legs well but did not have strength enough to stand. At this time, he had regained sphincter control.

A letter from the patient six months later indicates that he has entirely recovered.

Case 3. C. B., a white boy, aged 18, was examined Dec. 11, 1930, on the twenty-third day of his illness.

The onset was rapid, with staggering gait and partial oculomotor paralysis. Within three days, recovery appeared complete.

On the nineteenth day, there was a return of the staggering gait, soon followed by diplopia, blurred vision, and weakness of the right arm and leg.

Physical Examination: Nystagmus; weakness of both internal recti; marked weakness of the right arm, and slight weakness of the legs. The tendon jerks in the arms were more active on the right, and in the legs very brisk; with extensor plantar response on the right.

Spinal Fluid: Cells 6; globulin, slight increase.

On the twenty-sixth through the thirty-sixth days, modified forced spinal drainages were given. Improvement began in two days; and shortly before discharge on the forty-eighth day, only light nystagmus and occasional extensor plantar response remained.

Three days later, the fifty-first day, the patient was re-admitted because of an acute recrudescence of symptoms. Modified forced spinal drainages were resumed and were followed by immediate improvement; and he was discharged on the seventy-ninth day with only a few residual reflex changes.

When examined seven years later, only equivocal plantar response on the right was found (abdominals were active and equal); and he had remained free of symptoms.

As with the encephalitic group, it is apparent that the earlier the treatment is instituted, the better are the results. Some cases, such as Case 1, recover spontaneously. Some cases apparently have a recrudescence of the process, as Case 3, and may respond promptly to resumption of therapy.

B-2 Myeloradiculitis.

Case 1. L. R., a white male, aged 35, was examined March 24, 1936, on the twenty-fourth day of the illness.

The patient's illness began with intense throbbing pain in the left shoulder and left arm.

Physical Examination: No definite motor disturbance; however, all movements of the left arm were limited by pain. Tendon jerks: triceps very sluggish on the left, active on the right; biceps and radials active and equal; in the legs more active on the left than on the right. Plantar response was flexor, abdominals more active on the right than on the left. Sensory: no definite disturbance.

Spinal Fluid: Pressure, 150 mm. of water; cells none; globulin, faint trace.

Beginning on the twenty-fifth day, the patient received six modified forced spinal drainages. For some time before examination, the patient had required considerable sedatives and some opiate day and night for pain. After the twenty-sixth day, nothing was required except sedatives for sleep.

Case 2. S. I. D., a white male, aged 58, was examined Nov. 26, 1936, on the seventy-first day of illness.

The patient complained first of pain in the left shoulder, which gradually extended down the arm; and in about two weeks, definite weakness was noticeable.

Physical Examination: No cranial nerve involvement. There was weakness of the left deltoid. Triceps on the left sluggish, active on the right. Other tendon jerks more active on the left than on the right.

Spinal Fluid: Pressure 90; cells none; globulin, faint trace.

Beginning on the seventy-fourth day of illness, the patient received intravenous typhoid injections, twelve in number. On the eighty-seventh day of the illness, the patient was discharged, improved.

Case 3. J. M., white male, aged 35, examined Aug. 24, 1936, three months after the onset of illness.

In the beginning, there had been tingling and twitching of the legs, associated with increasing weakness of the legs.

There was considerable weakness of both legs, most pronounced in the distal segments, absent tendon jerks in the legs, absent abdominals; but with flexor plantar response. Sensory level at thoracic 9.

Spinal fluid: Pressure normal; constituents normal.

He was given typhoid vaccine intravenously, twelve injections. This was followed by improvement. When examined Oct. 2, 1936, there had been considerable improvement in strength; knee jerks and abdominal responses had returned. Sensory level, lumbar 4.

Only Case 1 was seen fairly early and was improved through forced spinal drainage. Cases 2 and 3 were seen much later and were given typhoid vaccine, both followed by improvement.

B-3 Neuritis.

Case 1. C. P., a white child, aged 5, was examined Feb. 13, 1936, on the fourteenth day of the illness.

The patient first complained of stiffness in the knees and back of the legs. A few days later, she complained of pain in her feet which was intensified when the feet were dependent. Following this, there was increasing weakness of the legs, and for a few days she had been unable to support herself on her legs.

Physical examination revealed no cranial nerve involvement except very moderate weakness of the sternomastoids. There was pronounced flaccid weakness of all muscle groups of both legs, more marked in the distal group. Tendon jerks not obtained. Plantar response extensor. Abdominals not obtained on the left; very sluggish on the right. No sensory disturbance.

Spinal Fluid: Pressure 180 mm. of water; 25 c.c. removed; globulin, faint trace.

From the seventeenth day to the twenty-sixth day, the patient received daily modified forced spinal drainages. During this period, there was very slight improvement. However, after the drainages were discontinued, she developed rather rapidly increasing weakness of both legs so that on the forty-third day there was complete paralysis of the distal segments. Beginning on the forty-third day, she was given typhoid vaccine intravenously. She had twelve good febrile reactions.

Within a week after the end of typhoid therapy, there was perceptible improvement. Examination on the seventieth day revealed that the patient had im-

proved steadily and was able to move practically all muscles. On the one hundred seventh day, examination revealed further improvement, and the patient was able to walk with help. At the end of 6 months, recovery was virtually complete.

In this case, forced spinal drainage was begun on the seventeenth day, resulting in an arrest of the process as long as the procedure was continued. Presumably, the infection had become too firmly imbedded to be relieved by this form of treatment, as the condition became rapidly worse after its discontinuance, but improved immediately after fever therapy.

Summary

Three cases of epidemic encephalitis, seen at varying stages of the disease were discussed. These cases were selected for comparison because, although as yet unproven, it is generally accepted that it is a virus disease. From these three cases, it appears that forced spinal drainage is of considerable value in the early stages, i.e. within the first week or two; of limited value in the latter stages, i.e. after two or three weeks; that typhoid vaccine intravenously is beneficial after three or four weeks, and the earlier instituted, the greater the value.

In comparison, a group of disseminated diseases is presented which clinically have resembled an infectious process, and have shown response to therapy practically identical with the encephalitis group. Such cases have been variously described as acute disseminated encephalomyelitis, acute benign infectious myelitis, myeloradiculitis, neuronitis, etc., terms indicative of the part of the nervous system involved. In the study of these cases, it is believed that many such syndromes have a common etiologic basis, that the etiologic agent is a virus. Hence, in regard to the management of these cases, the important thing is to recognize the infectious nature of the process rather than to emphasize the topographic classification. If seen within the first two weeks, forced spinal drainage is of value; thereafter, artificial fever therapy is of help.

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DISCUSSION ON PAPER OF DR. RICHARD B. WILSON

Dr. John E. Walker (Columbus): Dr. Wilson's paper has been highly instructive to me, and I feel competent to discuss it only as one who has learned a great deal from it.

Most physicians are acquainted with acute complete transverse myelitis of unknown etiology. However, I learned only from Dr. Wilson's paper of the relative frequency of lesser degrees of myelitis, presumably of an infectious nature, and am very grateful to him for having described them. In the past I have encountered such cases and have been able to classify them only with great difficulty.

The proper recognition of these cases of myelitis is of great importance for two reasons. First, on account of the fact that Dr. Wilson's method of forced spinal drainage is a therapeutic method of great promise, and secondly, because the motor disturbances may give more than a superficial resemblance to epidemic poliomyelitis. Personally, I have been very close to making this mistake, particularly since in Columbus we saw several cases of myelitis of the type described by Dr. Wilson when poliomyelitis was occurring in epidemic form last summer in Alabama. However, the presence of sphincter disturbances, evidence of pyramidal tract involvement as shown by the Babinski sign, and sensory disturbances in myelitis, and their absence in poliomyelitis, usually render a diagnosis possible.

I should like to ask Dr. Wilson whether these points of differential diagnosis are sufficient to distinguish between the two diseases in all cases. That is, whether he personally has to struggle between the differential diagnosis of epidemic poliomyelitis and these cases of myelitis as we had in Columbus, particularly since we saw the cases early and were working under the nervous tension of having poliomyelitis in epidemic form occurring only a short distance away from us.

Dr. R. C. McGahee (Augusta): When one reviews the literature dealing with the type of diseases discussed by Dr. Wilson, the idea is soon gotten that they are definitely occurring more commonly and frequently

than they used to. Whether or not that is true, it is certainly true that our interest in these diseases as pathologic entities is of very recent origin. For instance, our knowledge and interest in epidemic encephalitis has been greater since 1916-17 when Von Economo gave his report of the Vienna epidemic, than before that time. Yet in spite of this additional interest, well marked and well developed cases of these diseases are still being overlooked or misdiagnosed, and if that is true of the well marked cases it certainly must be true of those that are called atypical and those of mild degree. I think there is a certain amount of justification for that, because diagnosis is not always easy. At times the symptoms may be much more like those of typhoid fever or brain tumor than any process that we have in mind.

In a carefully done spinal puncture we have a most valuable diagnostic procedure, and it yet must be borne in mind that the spinal fluid of these patients may be normal or essentially abnormal. It also must be borne in mind that the symptom complex in childhood might differ from that seen in adult life. In fact, the symptomatology and even the pathologic findings are so variable that one would hesitate to ever speak of a typical case.

I think that the term "epidemic encephalitis" at times is quite misleading, because sporadic cases do frequently occur, and lethargy may never at any time be an outstanding symptom in these cases.

Dr. Wilson has justly called attention to the advantage of early treatment which presupposes the necessity of early diagnosis, because his results have shown very definitely that the earlier these people are treated the better the results that one might expect. And yet there is a certain mortality going along with it, varying from time to time, it is true, so the outlook, even though the cases are treated early, is not very good. That is especially true of one type, encephalitis periaxialis diffusa, which is almost always a hundred per cent fatal.

Dr. James N. Brawner (Atlanta): Dr. Wilson's paper is a valuable contribution to our knowledge of the acute infections of the nervous system. Since 1918 when epidemic encephalitis was first observed in this country much has been done to correlate inflammatory disease of the brain with disorders of the mind, and I feel that Dr. Wilson's studies are also valuable from this standpoint.

There is one type of encephalitis to which I wish especially to call attention; that is, inflammatory conditions involving the hypothalamus or the thalamus. Infections involving the hypothalamus may be due to the viruses or they may result from infected sinuses. Patients suffering from lesions of the hypothalamus are often intellectually clear, yet they become markedly disturbed emotionally and when seen several months after the acute symptoms subside show many symptoms resembling those of dementia praecox.

For many years I have noticed that epidemic encephalitis occurs more frequently following an epidemic of influenza. The exact relations of encephalitis to influenza has yet to be determined. An examination of the spinal fluid should be made as early as possible dur-

ing the course of the disease. Early in the disease from 10 to 20 cells are usually found, and unless associated with syphilis the Wassermann is negative. In chronic encephalitis the spinal fluid usually is negative.

Dr. Richard B. Wilson (Atlanta): I am afraid I cannot accept Dr. Walker's suggestion that I discuss encephalitis since that would involve far more time than is now available.

However, the most significant diagnostic features of epidemic encephalitis might be mentioned: (1) mid-brain manifestations, i.e. ocular palsies; (2) hypothalamic manifestations, i.e. disturbance of sleep. In most instances, this amounts to a hypersomnia, the patient sleeping constantly, but can be aroused fairly easily. In some, there is a reversal of sleep rhythm in that they sleep during the day but are unable to sleep at night. In some cases, there has been complete insomnia.

The question of differential diagnosis between these cases and poliomyelitis has been raised. I do not believe that any of the groups except the myelitic would cause difficulty in differentiation. Case 2 might possibly cause some confusion because of the rapid onset of the paralysis. However, in this case, there was a very definite sensory level which would almost rule out poliomyelitis. In the other cases, the paralysis developed slowly and was of a spastic type. The paralysis in poliomyelitis usually develops quite rapidly and is of a flaccid type.

LESIONS OF THE BRAIN FOLLOWING FEVER THERAPY: ETIOLOGY AND PATHOGENESIS

In addition to a review of the two cases and the experiments on twenty animals previously reported, F. W. HARTMAN, Detroit (*Journal A. M. A.*, Dec. 25, 1937), adds one more case and experiments on fifteen animals in this study in an effort to answer the following questions relative to the striking parallelism between the lesions of the brain ascribed to asphyxia and those observed after fever therapy: 1. Is this apparent parallelism confirmed or disproved by histologic examination of the brain and other organs? 2. Are the physical and the biochemical disturbances associated with fever therapy conducive to anoxia? 3. Does anoxia occur during fever therapy and if so to what degree? Constant and severe anoxia is shown by the decreased oxygen saturation of the arterial blood and the low oxygen content of the venous blood in animals after fever therapy. Animals having a saturation below 65 volumes per cent died. Factors producing anoxia during fever therapy are alkalosis, accelerated blood flow, increased temperature of the blood and increased demand for oxygen in the tissues. The last results from the increased metabolism and the depressed utilization of oxygen of the tissues, especially the brain, due to the histotoxic effect of the sedatives used. The pathologic changes resulting from fever therapy are typical of anoxia produced in other ways, such as prolonged asphyxia, carbon monoxide poisoning and acute alcoholism. Anoxia may be prevented by the administration of oxygen throughout fever therapy, provided respiration and blood pressure are maintained at reasonable levels. The best method of administering oxygen during fever therapy is the nasal catheter.

INJECTION TREATMENT OF HERNIA*

ENOCH CALLAWAY, M.D.
LaGrange

The history of the injection treatment for hernia goes back one hundred years. Velpeau reported three cases in 1837. Three years later, thirteen cases were reported by Pancoast. In 1877 Heaton reported numerous cases, as did Warren in 1881. Their claims were over enthusiastic and, therefore, not convincing. Many others have reported series of cases with varying results. The solutions used in past years cover almost every imaginable sclerosing agent and some which even surpass the average imagination. Alcohol, phenol, iodine, tannic acid, fluid extract of white oak bark, quinine and urea hydrochloride, bacterial cultures, and numerous other irritants have had their advocates.

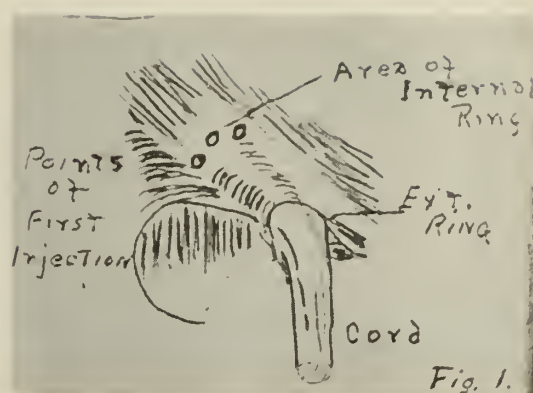
The principal solutions used at present are:

1. Phenol, 50 parts; alcohol, 25 parts; tincture of thuja, 25 parts.
2. Tannic acid solutions.
3. Mayers's solution (zinc sulphate, phenol, glycerine, etc.).
4. Pina Mestre solution (a distillate of several botanical drugs with tannic acid, benzyl alcohol, and thymol added).
5. Sodium psylliate—a soap made from psyllium oil. (My experience has been limited entirely to the use of this agent.)

Comparing the end results of the injection with those of surgical operations, Rice quotes the following statistics of Wollerman:

| | <i>Injection Method</i> | <i>Operative Method</i> |
|-------------------------------------------------------------|-----------------------------|-----------------------------|
| Total number of cases treated | 2,924 | 1,140 |
| Exaggerated reaction and swelling without suppuration | 33 | 130 |
| Prolonged suppuration (deep abscesses, fecal fistula, etc.) | 20 | 23 |
| Testicular atrophy | 2 | 5 |
| Deaths | 1 | 5 |

Rice also states that the average incidence of cures compiled from the literature in 6,550 cases was 92.6 per cent, while surgical operation statistics range from 70 to 97 per cent cures. My observation has been that recurrent cases following operation usually consider the surgeon responsible and go elsewhere for further treatment. Bissell and Andrews state that statistics gathered by letter show a much higher percentage of cures than those



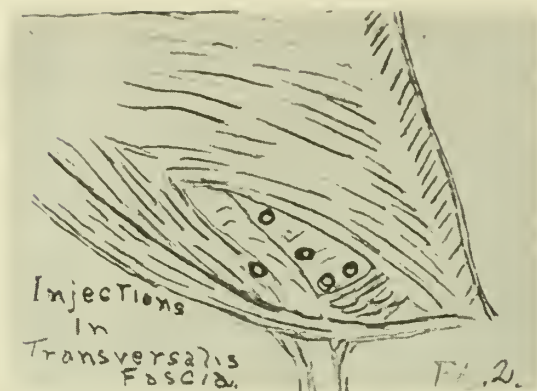
compiled by clinical check-up. As compared to operation, the injection method has many other advantages. Primary mortality is almost negligible. There is no period of lost earning ability, no hospitalization, and much less discomfort to the patient.

The following indications and contraindications should be observed:

1. Hernia must be reducible and amenable to be held in reduction constantly.
2. Defect should not be too large. Rice gives 3 cm. as the extreme limit, which would appear to be reasonable.
3. Obesity, uncontrollable cough, individuals who strain at stool, and diabetics should not be treated.

A careful examination to diagnose the type of hernia and to determine its reducibility, and controllability by a truss, must be made. I prefer to make this examination with the patient standing. The hernia is reduced and an index finger is inserted into the external ring. The left hand is used on the left side and the right hand on the right side in order that the ball of the finger and not the nail will be in position to palpate the hernia. The thumb of the opposite hand is pressed firmly over the canal just above the inserted finger and the patient is asked to cough. An immediate impact, when no bulge is felt under the thumb, indicates a direct hernia. The thumb is gradually moved up the canal until an impact is felt. This point indicates the position of the internal ring which varies from 2 to 6 cm. A truss is fitted accurately and the patient is examined to be sure the hernia is held reduced at all times. The truss should be worn for several days before treatment begins, and continuously for six weeks after treatment is completed. The type of truss, if com-

*Read before the Medical Association of Georgia, Macon, May 14, 1938.



fortable to the patient, does not seem to be an important factor in the final results.

It is of utmost importance that the human anatomy should be visualized accurately before one attempts to treat a hernia by injection. The accompanying drawings show the anatomic landmarks and usual points of injection for inguinal hernia.

The technic used in my cases follows: Solution used—Sodium psylliate (Sylnasol). Needle is inserted in a direction from the anterior superior spine to the pubis. Fascia of external oblique is penetrated and solution is deposited at desired points as shown in the drawings. I prefer a relatively large needle as I believe it is less likely to penetrate important structures and its point is easier to find. The large needle does not seem to cause more discomfort to the patient. Before injecting solution, the plunger of syringe should be drawn back to see that needle is not in a blood vessel. Two cubic centimeters of solution are deposited at each point. No more than three areas should be injected at one treatment, and it may be preferable to inject only one point. Injection should be made very slowly. If the patient complains of pain the treatment should be stopped immediately, as this may indicate that injection is being made into the cord or peritoneum. I have had no difficulties injecting three points at six to seven day intervals. As shown in the drawings, most of the solution is deposited in the plane of the transversalis fascia. Andrews has shown from clinical experience that weakness and relaxation of this structure is a major factor in both direct and indirect inguinal hernia. The canal is also narrowed laterally where this seems to be indicated. Patients should be carefully observed for one year. Further injections should be given if needed.

Results: Hernias injected—26; recurrences—1. (Apparently this recurrence has been controlled by additional treatment.)

Complications: Edema of the cord or scrotum occurred at some time in most patients; in my cases this has not been sufficiently severe to cause the patient any major inconvenience. Two patients complained of severe pain which lasted from one to two hours and required morphine for relief. As both complaints occurred while injecting the internal ring, I feel sure that some of the solution was deposited in the peritoneum. With the solution used, Rice has shown experimentally that no permanent damage to the peritoneum is produced. More serious complications may occur from careless or faulty technic. Rea has shown that sterility may be disregarded as a possible complication.

Conclusion

Results in carefully selected hernia cases properly treated by the injection method and kept under observation, should compare favorably with the usual surgical operations for this condition.

As the patient can continue a gainful occupation, this method of treatment allows many sufferers from hernia to obtain relief who would face economic ruin if they were forced to remain idle for several months following an operation.

In selected cases and in the hands of competent surgeons, this method should be valuable. If used indiscriminately and without due care, it will fall into disrepute.

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DISCUSSION ON PAPER OF DR. ENOCH CALLAWAY

Dr. A. R. Rozar (Macon): I want to congratulate Dr. Callaway on his results in this procedure. We usually can talk most about the things we know the least about, so I should be able to discuss this very freely, especially from the standpoint of experience.

I think there are certain dangers in this procedure that should be pointed out and that should be impressed on us. I think it requires about as much skill to do a proper injection of a hernia, from my knowledge of the situation, as to do an operation. Unfortunately, my experience has been with the bad results from this method which had been used by others. I recently saw a condition of intestinal obstruction that developed with vomiting of stercoraceous material and evidence of a peritonitis. He was a very sick man, but did recover.

The reason I bring this out is to impress you with the fact that this procedure looks so easy that it will have a tendency to get into the hands of quacks, and a great deal of harm can be done. My patient was a man who was injected by a practitioner of one of the healing arts and not a medical doctor and had a bad result. I think when this method is used, it should be used by men who have had experience.

I also am convinced, from my observation, that it is suitable to only a certain class of hernias, and existing hernias should be examined very carefully before this method of cure is attempted.

Dr. Marvin A. Mitchell (Atlanta): About six months ago, I was asked to start a clinic at Grady Hospital for the injection treatment of hernia. Since that time I have had experience with about thirty cases. I enjoyed Dr. Callaway's paper. I think he pointed out most of the dangers.

It has been my experience that the complications are very few, and at the present time I am quite enthusiastic about it. I think I have read most of the literature on it, and most of it is favorable. However, there are some objections that have been brought out by men like Coley, who have done a tremendous series operatively and about fifty, I think, by injection. He states that this fibroblastic exudate that is formed by the same material that Dr. Callaway used and that I have used, is absorbed, and there is reappearance of most of the hernias. Of course in my series even my oldest cases are not over six years old, and I cannot tell yet, but many of them look like they are apparently well at the present time. I am just waiting to see how they do turn out after a year's duration.

Dr. Charles K. Wall (Thomasville): I have enjoyed Dr. Callaway's paper and I wish to say that I was drawn into this work, like a lot of other people, by having lost some hernia operations through this method of treatment.

A man came to my office about three years ago who had a hernia, a good big one. I examined him and made an appointment to operate on him. I did not see anything more of him until four or five months later when I was on a fishing trip and this man came by driving an ice truck. He recognized me sooner than I did him. He said, "I guess you think I am a long time getting that hernia operation." I said, "I thought you had not gotten around to it." He said, "No, I got well without it."

To make a long story short, I asked him how he got well without it and he told me about being injected. I was not satisfied with his statement that he was well, so I examined him. He had a firm healing and he had had a ring fully as big as a twenty-five cent piece, with a scrotal hernia, and he was entirely closed. That opened my eyes. I figured if a man could have a hernia like that treated by injection and have that good result, there was something to it. I found that Dr. Massey at Quincy, Fla., had done this work, and a week or so later in the State meeting at Atlanta I saw Dr. Massey and he told me about it. I have been doing a number of injections of hernias, and now have 40. I can say that this is not the answer to a maiden's prayer. It is a lot of work. Nobody should attempt to inject a hernia who has not operated on some and does not know about the anatomy. Success is not due to the technique of a man who uses ordinary syringes and knows something about the anatomy, but is due largely to the selection of cases. If you have a case that is reducible, make the patient wear a truss during the treatment and a month thereafter, after which he can lay it off at night, he can then wear an elastic truss for two or three months. Then you can almost assure him of a result comparable to a good operation.

I think the bad results have been due to lack of co-ordination between the patient and doctor. As to the advantage, of course, as Dr. Callaway pointed out, a lot of people are working and barely making ends meet and can rarely afford to pay the hospital bill and lose the time, but they can go to the office two or three times a week and within fifteen minutes be back to work. Such a man can be cured of a hernia where otherwise he would be forced to live with his hernia or at best in a truss to keep it under control.

The business of operating and injecting hernias is always in favor of operation as far as the doctor is concerned. I would rather operate on a dozen hernias than inject one comparing the time and bother. In my own practice I keep Monday, Wednesday and Friday so that if I want to go fishing I can. By doing this work on alternate days you will find that the patients come in more regularly.

I believe that the injection treatment of hernia has a future and has definite merit. It is still going to be abused, and as long as chiropractors and osteopaths inject hernias there is going to be bad results.

The solution that has been used has been largely experimental. The first solution I used was Pine-Mestre solution, gotten out in Barcelona, Spain, and that gave the best results of anything I have used, but I think during the recent disturbances in Spain the people in this country have either adulterated it or we do not have the same quality that was put out in the first

place. I believe the solution put out by Searle's is the best American-made product, and I am sure those of us hearing about hernias are going to hear more about them in the future. There is no question that there is a lot of merit to the injection method treatment of hernia.

Dr. J. L. Campbell (Atlanta): I think from the case referred to by Dr. Rozar it would be a good idea to encourage the chiropractors and osteopaths to inject all the hernias that apply to them. During the last session of the Legislature they certainly made some extravagant claims, not with regard to hernias but to almost everything else. Now, if their results are similar to the one just mentioned perhaps the public will get disgusted and we might be able to get the Basic Science Bill passed.

I have seen a few injection cases that were apparently cured. Just what the end results were or will be, we are at present unable to tell, for there have not been a sufficient number treated by reliable men to justify an estimate. When I began the practice of medicine this procedure, like the injection of hemorrhoids, was in the hands of the quack. The flaring advertisement, "Hernia cured without the knife," attracted a great many victims. Some got bad sloughs and a few were cured.

Knowing as I do the nature of scar tissue, I am loathe to recommend such a procedure. A hernia sac is like an inverted bottle. The abdominal cavity represents the body of the bottle; the sac, the neck. Unless we can obliterate the sac and leave a smooth undimpled surface in the abdomen at the inner ring and at the same time give a good support below, we are sure to get a recurrence. Now, if we are sufficiently skillful to place our sclerosing solutions just outside the sac and at the same time avoid the cord, so that the canal and both rings may be closed off, we can reasonably expect a cure. I imagine that it takes a great deal of practice to accomplish this feat. If we get a recurrence, an operation is much more difficult than if this "knifeless" operation had not been done.

I hope that when Dr. Callaway has had a sufficiently large series of cases and has been able to keep up with them, he will favor us with a report on his end results.

Dr. B. L. Helton (Sandersville): To me this is a most interesting subject. I have been treating this type of patient for a couple of years without a single failure. First, you should know anatomy; second, you should use the proper solution carefully. Several cases, including two patients who had previously gained no result from an operation, yielded to my treatment and are now enjoying a normal life.

There are two or three methods of introducing your solution. The method I use mostly is going up into the external ring, through the scrotum, with finger and tuberculin syringe. With your finger displace the cord and vessel before inserting the needle into the muscle at the floor of the canal near the internal ring, and before injecting any fluid into the muscle, always pull back on the plunger to see that you get a snap, and that no blood comes back into the syringe; for should your

needle enter a blood vessel or the peritoneum there would be no snap.

At the beginning of the injection treatment you should go very slowly, and use every precaution not to allow any of the solution to get into the fatty tissue, thereby preventing a lot of trouble caused from slough; also be careful not to inject any of the solution into the peritoneum, as such a mistake would result in immediate pain followed by peritonitis.

In all cases you should have a properly fitted truss and the patient should be instructed to wear it day and night for a period of six months, at least, following your treatment.

I have had 100 per cent success with all my cases. I know of one physician who injected himself through the scrotum and perfected a cure, while another treated thirty cases and perfected twenty-seven cures.

Dr. Enoch Callaway (LaGrange): I appreciate the discussion. I tried to bring out that this is a surgical procedure. It is a procedure that should be in the hands of a surgeon who is capable of doing the operation, if necessary. To make this method safe, he should have facilities to operate; and if he runs into some of the complications that apparently capable men have run into, he should be able to recognize them, hospitalize that patient, and operate immediately.

There are dangers associated with this method just as there are dangers associated with the operation. There is a distinct mortality rate from the operation for hernia, and there is a distinct morbidity rate from the injection treatment. I think it is worth using; however, it should be used carefully by competent men.

INJECTION TREATMENT OF HERNIA

NATHAN N. CROHN, Chicago (*Journal A. M. A.*, Feb. 13, 1937), is of the opinion that permanent cure of hernia can be effected by the injection method of treatment, but only in suitable, selected cases. The most promising results are obtained in patients with oblique hernias which are easily completely reducible and which can be readily kept reduced by a truss. Small recurrent and small direct hernias may be treated successfully. The surrounding tissues must not be atrophic or atonic. A proper fitting of the truss is of greatest importance. It must feel comfortable and firmly retain the hernia under all conditions. It is obvious that the pad must fit over the internal ring in oblique hernias, not press on the pubis, and otherwise fit properly. The technic of injection involves an accurate knowledge of the anatomy involved. The author has experimented with injections of methylene blue in cases prepared for operation and in the first few attempts was astonished at the failure of the injected solutions to be at the expected sites. With experience, the injection at the internal ring may be made quite exact, and such experience should first be gained. The solution used should be one that does not require large doses, preferably not over 0.5 cc., for it is too easy to inject into the peritoneal cavity. Knowing of no better solution at present, he uses one of phenol 40 parts, alcohol (95 per cent) 35 parts, oil of thuja, 25 parts. The only complication that he has encountered has been mild swelling of the scrotal contents, which subsided spontaneously in a few days.

THE PRACTICAL APPLICATIONS OF HUMAN BLOOD TYPING TESTS†*

E. B. SAYE, M.D.
Macon

Sir Christopher Wren, far famed as a designer of cathedrals, was among the first to experiment and report upon the subject of blood transfusion. His experiences, together with those of Lower, King, and Cox, were recorded in the *Philosophical Transactions* published by the Royal Society in London about the year 1666. Credit for the first successful human blood transfusion, however, goes to Jean Denys, of France. Denys did not transfer human blood to his patient, but used, instead, the blood of a lamb. Popular opposition soon led to the passage of vigorous laws against the operation. Interest in the measure was again revived somewhat by Blundell, of London, who described the transfusion of patients with human blood, and invented a syringe for removing blood from the donor and injecting it into the blood vessels of the recipient.¹ A difficulty ever present to the pioneer workers was the fact that drawn blood coagulated so quickly. This obstacle was finally overcome by removing the fibrin from blood, and from about the year 1835 onward defibrinated blood was employed almost altogether. Landois, himself an extensive investigator upon the subject, in 1875, published in Germany, a monograph in which he summarized the information then existing upon the use of defibrinated blood. In America, transfusion as a therapeutic measure awaited the brilliant researches of J. B. Murphy, Carrell, and George Crile, upon the suture of blood vessels and the use of suitable cannulas. As late as 1910, Da Costa in his masterly textbook of surgery wrote: "At the present day a saline fluid is usually infused in preference to transfusing blood."

The practicableness of transfusing blood was greatly advanced by the finding of a satisfactory anticoagulant. Agote, of Buenos Aires, in 1914, was the first to use sodium citrate for this purpose. Sodium citrate renders the calcium of the blood inert and thus

prevents the formation of fibrin and the development of a blood clot. Citrated blood remains fluid and can be transported and used more leisurely than whole blood. The citrate method of transfusion was widely employed during the World War because of its simplicity. Sodium citrate does not appear to be very harmful or lead to unfavorable post-transfusion reactions if the blood has been properly matched and given correctly.

It had long been recognized that severe reactions might attend the transfer of blood from one animal to another of alien species. Moreover, in many instances incompatibility was observed to follow the giving of the blood of one person to another. Landsteiner, in 1900, found that almost all persons, without regard to race or sex, could be divided into three groups, depending upon the behavior of the fluid and corpuscular portions of their blood. His pupil, Sturli, and Decastello, continuing his investigations, in 1902, added a fourth group. Jansky, a Bohemian, in 1907, accurately described and reclassified the four groups, and showed that one might safely receive only the blood of another person of the same type. In 1910, Moss, in America, repeated the work of Jansky, using, unfortunately, different numeral designations for the four types. Confusion has arisen because of the different systems of classification employed. That of Moss has been widely accepted in this country. Nevertheless, the Society of American Bacteriologists, the American Association of Pathologists and Bacteriologists, and the American Association of Immunologists recommended Jansky's classification because of the priority of his work. More recently, Landsteiner has suggested the use of certain letters to designate the four types, and, he believes, to define more accurately the constitution of the red blood cells of the separate groups with respect to their response to added serum portions of blood. Landsteiner's classification, now known as the International one, has the sanction of the Health Committee of the League of Nations. The American Medical Association Committee on Medicolegal Blood Grouping Tests, in their 1937 Report, approved the employment of the International Nomenclature.²

†From the Pathological Laboratory, Macon Hospital, Macon, Ga.

*Read before the Sixth District Medical Society, Milledgeville, June 30 1937.

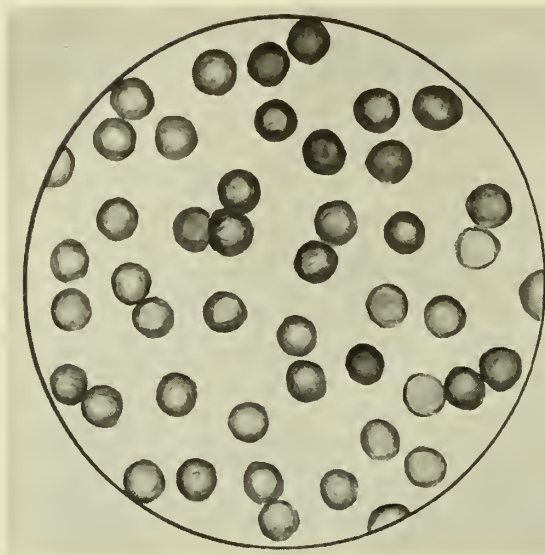


FIGURE 1
No incompatibility between mixture of patient's serum and donor's cells.

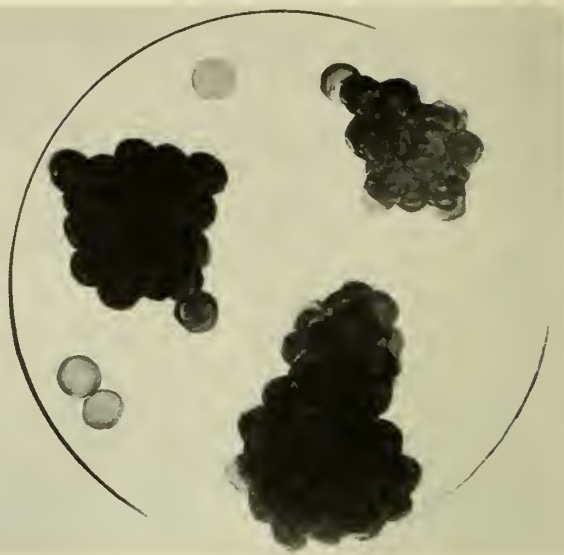


FIGURE 2
Incompatibility. Patient's cells clumped by donor's blood serum.

*Table I—Human Blood Groups**

| <i>International Designation</i> | <i>Agglutinogens in the Cells</i> | <i>Agglutinins in the Serum</i> |
|----------------------------------|-----------------------------------|---------------------------------|
| O (Moss IV) | None | a and b |
| A (Moss II) | A | b |
| B (Moss III) | B | a |
| AB (Moss I) | A and B | None |

*Modified from Table in Winton and Bayliss' *Human Physiology*, P. Blakiston's Son and Co., Phil'a., 1934.

When fresh blood is collected in such receptacle as a clean test tube, certain familiar changes soon ensue. The fibrin that has developed in the shed blood entangles the corpuscles into a semisolid, dark red jelly-like mass—the coagulum or clot. Drops of nearly transparent fluid are squeezed out, as contraction of the clot proceeds, and collect upon the surfaces above and at the sides of the coagulum. The fluid serum portion may be made more clear by centrifugalizing the tube of blood. If the specimen be centrifugalized too soon after collection, serum alone will not be obtained, but plasma, instead, which is serum plus fibrin. Plasma is not satisfactory for use in typing examinations. Two things are necessary to the accurate determination of blood groups: one, serums practically free from suspended blood corpuscles, and, second, red blood cells washed in physiologic salt solution until they are nearly freed of the serum which had previously coated them naturally.

According to Landsteiner, two distinct substances, called Agglutinogens and conven-

iently denominated by the capital letters A and B, occur normally in red blood corpuscles. Likewise, there exist in the blood serum two factors, called Agglutinins Alpha and Beta, or Anti-A and Anti-B, that cause the clumping, or agglutination, of erythrocytes that contain the agglutinable substances A or B. Serum containing only agglutinin Alpha will cause clumping of no other cells except those containing agglutinin A, and Beta serum, none but those containing agglutinin B. If both agglutinable substances are present in the red blood cells, they will be affected by serums having either Alpha or Beta agglutinins; if neither is present, clumping will not take place when any type of serum is added. Therefore, possessing two known potent serums—one from a pure Group A individual, in whose blood only anti-B (Beta) agglutinins would be found; and the other from a person of Group B, with only anti-A (Alpha) agglutinins present—we may readily classify any unknown fresh blood specimen, by adding small quantities of the unknown washed red blood cells to small portions of identified Beta and Alpha serums separately.

Groups O and A are each represented in about 40 per cent of all persons; Group B, approximately 10 per cent; and Group AB, in only about 5 per cent. The groups are hereditary and are not in any way influenced

by disease, medication, or environment; they are not modified by repeated injections of compatible blood; they are not fully developed in early infancy, but usually become permanently established by the end of the second year and remain constant throughout life.

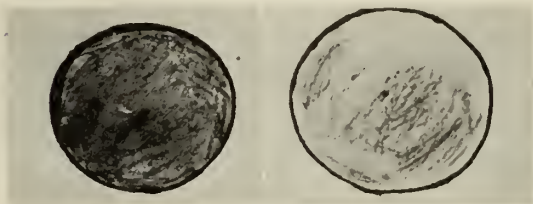
In addition to the four classic groups, it is now known that sub-types occur infrequently in certain of the groups, making altogether six, instead of four classes of individuals (A_1 , A_2 , A_1B , A_2B , B , and O). The finding, however, in no way alters the practical usefulness of blood typing according to the established method. The sub-types, when present in transfused blood, seldom do harm. Wiener,³ in his recently published, admirable monograph upon blood transfusion, mentions a patient who was given eighteen transfusions before it was recognized that the donor's blood belonged to a sub-type unlike that of the recipient. Typing alone ought never to be relied upon as a means of selecting donors. In every instance, the blood of the donor and recipient should be cross-matched; that is to say, it should be thoroughly demonstrated, before any blood is transferred from one person to another, that the patient's red blood cells will neither be clumped nor dissolved by the fluid portion of the giver's blood, nor the donor's blood be affected by either constituent of the patient's blood. If the same donor be used more than once, his blood should be carefully cross-matched with that of the recipient before each transfusion.

It should be fully ascertained, before every transfusion, that the prospective donor is healthy, and that the hemoglobin content of his blood is reasonably high. To avoid the possibility of transmitting syphilis to the patient, it is the routine practice at the Macon Hospital to run Kline tests upon all prospective donors whose blood specimens are otherwise satisfactory.

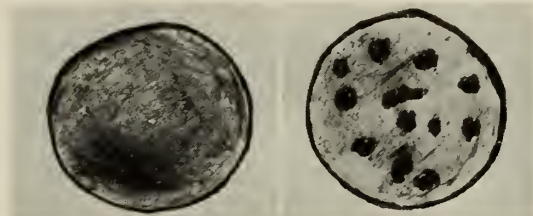
During and since the World War, we have heard of the so-called "universal donor." It was believed that one who belonged to Group O could safely give blood to persons of his own or any one of the other three groups, since his corpuscles would be clumped by no serum of any group, and for the reason that danger seems to reside mainly in the clumping effect of the recipient's serum. Never-

FIGURE 3
Blood type determination. Appearance to naked eye of unknown red blood cells mixed with known Type A and Type B serums.

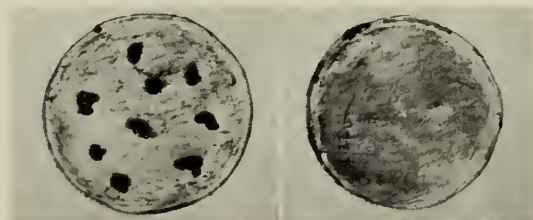
TYPE A SERUM **TYPE B SERUM**
Contains B agglutinin only. Contains agglutinin A. Causes
Clumps B and AB cells. clumping of A and AB cells.



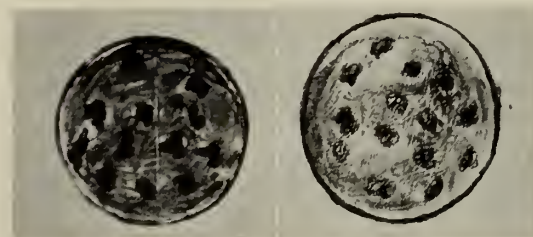
TYPE O
Forty-two per cent of persons. Cells contain no agglutinogens. Cells not clumped by any serum. So called universal donor group. Serum O clumps cells of all other groups.



TYPE A
Forty-one per cent of persons. Cells contain agglutinin A. Clumped by O and B serums.



TYPE B
Twelve per cent of persons. Cells contain agglutinin B. Clumped by O and A serum.



TYPE AB
Five per cent of persons. Cells contain agglutinogens A and B. Cells clumped by O , A and B serums. So-called universal recipient group. AB serums clumps no cells.

theless, undesirable reactions have followed frequently enough that a complete epithet—"Dangerous Universal Donor"—now characterizes the group. We are not relieved of the responsibility for matching specimens that are to be given intraperitoneally, because of the rapid absorption into the circulating blood that may supervene. Surgeons are aware that skin-grafts are more likely to suc-

ceed when the donor of epithelium and the patient are of the same blood type.

In Deuteronomy XII:23, we are told that the life is in the blood. As we come to understand more of its properties, we find unique manifestations of individuality in blood specimens of each separate person and animal. Astounding facts have already been unfolded through researches that have scarcely begun. Landsteiner, in 1927, discovered the existence of three previously unknown agglutinable substances in the red blood cells of all persons examined. These factors, designated M, N, and MN, are unrelated to the O, A, and B properties that also reside in the same specimens. They are inherited and constant throughout life. Moreover, they are present at birth.³ The significance of their determination is far-reaching. It is now possible to identify the transfused red blood cells among the patient's own corpuscles. At the present moment, at least eighteen distinct types of individuals may be shown. Heise⁴ said that if the M and N agglutinogens, in addition to the A and B factors, be considered, the medico-legal value of blood grouping is about doubled. No anti-M or anti-N agglutinins exist naturally in any type of human blood serum. Therefore, the presence of M and N agglutinogens is not revealed in the ordinary blood typing and matching examinations, nor does their occurrence disturb the compatibility of blood for transfusion provided the A and B properties are congruous.

In the field of pure genetics, the study of animal heredity has been immeasurably enhanced by the investigation of isoagglutinins, as those substances are called which cause the clumping of red corpuscles of animals of the same species. The knowledge now possessed concerning special and individual blood characteristics given promise of wide application in the application in the practice of forensic medicine in the future. It is now possible to identify criminals more certainly, to relieve an innocent accused man of the false charge of parenthood in some instances, and, occasionally, to throw light upon the identity of stains by blood or semen. Yamakami,⁵ in 1926, made the remarkable discovery that human semen constantly contains stable substances that act specifically upon the four common types of blood serums, depriving them

of any power that they formerly possessed to clump red blood cells of the same type as those of the person from whom the semen came. For instance, blood serum of Type O will normally agglutinate cells from persons of Type A, B, or AB. If the semen from a Type A man be added to Type O blood serum, the mixture will be deprived of any capacity to affect Type A cells, and will behave identically as would Type A serum.

Table II—Heredity of Blood Groups*
(According to Bernstein's Theory of Inheritance of A and B Factors)

| Parents | Children Possible | Children |
|---------|-------------------|----------|
| O x O | O | A, B, AB |
| O x A | O, A | B, AB |
| O x B | O, B | A, AB |
| A x A | O, A | B, AB |
| A x B | O, A, B, AB | |
| B x B | O, B | A, AB |
| AB x O | A, B | O, AB |
| AB x A | A, B, AB | O |
| AB x B | A, B, AB | O |
| AB x AB | A, B, AB | O |

*From Article by Heise, quoted in *References*.

In the medicolegal field especially, examinations tending to establish or disprove guilt ought never to be undertaken except by skilled immunologists, possessing ample knowledge and experience, and having known control serums of high degree of potency; otherwise, the methods will become discredited, justice be thwarted, and incalculable damage done.⁶

Although the technic of typing and matching samples of blood for transfusion is quite simple, much harm may result if the work be delegated to inadequately trained examiners. The novice may overlook, for instance, the dissolving of a few corpuscles, and thereby interpret a reaction falsely.

It may be reemphasized that none but evenly matched blood from healthy donors should be transfused. While sub-types have been described and new groups found, the fundamental four types remain unshaken. I have achieved my goal if I succeeded in presenting the present status of blood typing tests as applied to every day work in supplying matched blood to those in need of it.

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LOW BACK PAIN WITH SCIATIC RADIATION†*

Recent Advances in Treatment

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Prior to only a short while ago the patient with low back pain and "sciatica" was treated in a rather haphazard fashion. At first one thing and then another was tried with little assurance on the part of the physician that what he was doing would result in relief to his patient, but with the hope always that nature would improve the condition or that the patient would relieve him of further annoyance by consulting another physician or the cults. Physicians were more willing, in my experience, to refer to a colleague such an individual than any other, since frequently the patient had run the gamut of suggested therapeutic aids and was still disabled. The situation was similar to Osler's attitude toward the patient with chronic rheumatism: when such a patient walked into his office, he wished he might go out the window.

This situation existed because of little knowledge as to the physiology of the production of this type of pain. Although there is yet much to be learned, still with the many diagnostic aids at our disposal today, together with a better understanding of these conditions, the great majority of such patients can be studied intelligently and a rational understanding of the mechanism of the pain arrived at. There are, of course, a multitude of causes for pain in the low back with and without radiation down the leg. Those to be kept in mind are the following:

1. Trauma (fractures, etc.).
2. Arthritis.
3. Static or postural lumbosacral strain.
4. Tumors involving the spine or spinal cord.
5. Gynecologic and genito-urinary diseases.
6. Metastatic tumors.
7. Fibrositis, "lumbago" and "sciatica."
8. Spondylolisthesis.
9. A short leg.
10. Herniated intervertebral disk.
11. Hypertrophy of the ligamenta flava.
12. Infectious diseases.

In this discussion we shall limit ourselves to three entities: *fibrositis*, *herniated interver-*

tebral disk and *hypertrophy of the ligamenta flava*. These various disturbances were chosen to be discussed together because of the great similarity of their clinical pictures; in fact, upon clinical findings alone it is rarely possible to differentiate between them.

The term *fibrositis* is the one originally suggested to apply to those patients who have either independently, or associated with other rheumatic manifestations, tenderness over the site of attachments of the fascia to bone at any site, with or without contracture of the fascia or spasm of the muscles so affected, or both. The use of this term may be incorrect, since the fascia removed from the iliotibial band in patients so affected and subjected to histologic study has failed to reveal inflammation or any abnormal change. In the only patient I have operated upon during the initial acute attack, the fascia was reported as normal. If pathologic change, such as infiltration with round cells, exists, it most probably is present directly at the attachments of the fascia to bone, the so-called Sharpey's fibers, and this site has not yet been studied, although I propose to do so in patients to be operated upon in the future.

The usual history in these patients with low back and sciatic radiation of pain is that several years previously there had been a mild injury to the back, either twisting the back when swinging at a golf ball or a sudden pain in the lower back from lifting. A certain number of these patients have no knowledge of a definite injury. The pain is usually present in the low back and at a later date begins to radiate down the posterior aspect of the thigh to the heel or outer side of the foot. The attacks have lasted for several weeks to months; they may clear up and recur. Most of the patients I have seen are completely disabled at the time. A list of the body is present in a good many of them; there is frequently atrophy of the calf of the leg on the affected side and, if irritation of the sciatic nerve has persisted over a period of months to years, the Achilles reflex is absent.

The scheme of investigation of such patients should include a thorough history and physical examination, noting points of tenderness and motion of the back, also straight-leg raising and spine rocking tests, a complete neurologic examination and roentgenograms of the lumbar back and pelvis in antero-

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*Read before the Georgia Medical Society, Savannah, Dec. 28, 1937.

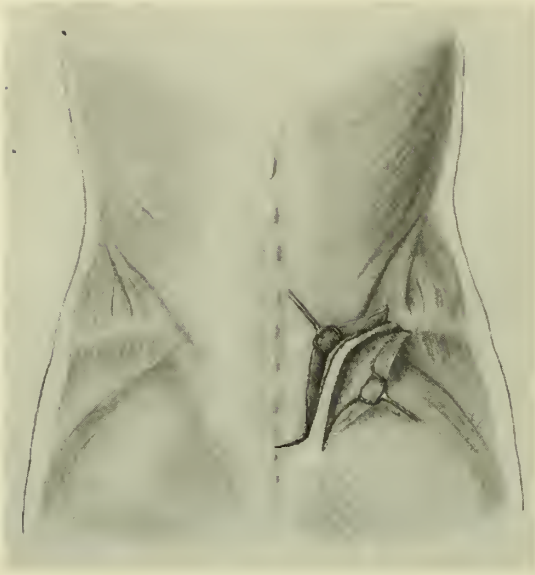


FIG. 1

An illustration of the fascial stripping carried out in the region of the right sacro-iliac joint for the relief of sciatica resulting from fibrositis.

posterior, lateral and oblique planes. A lumbar puncture is usually done, the dynamics studied and determination of the total protein nitrogen of the spinal fluid made. Almost always when the total protein nitrogen is elevated above 40 mg. per cent, there is either a tumor, herniated intervertebral disk or hypertrophied ligamentum flavum. A reversed Queckenstedt test may also be helpful; if it is positive, about 3 cc. of lipiodol may be injected in the subdural space and serial spot roentgen films taken to determine any block or deformity in the subdural space.

In those patients in whom it is felt no central lesion exists, and whose roentgen-ray films are negative, the condition is classified as fibrositis and a certain percentage are then subjected to the fascial stripping operation (Fig. 1). Ober,¹ in 1935, originally described this condition with particular reference to the iliotibial band and reported a few cases. Heyman² reported several cases but advocated stripping the fascia from the region of the sacro-iliac instead of the division of the iliotibial band. In my experience only a small number of patients actually have a tight iliotibial band, as will be shown in a review of the results in 50 such cases in which the fascial stripping operation was performed. The history and physical findings in a rather typical case of fibrositis are as follows:

A 45-year-old male who 12 years previously twisted the back while at work developed pain over the left

lower back. Some months later the pain began to radiate down the posterior left thigh to the calf of the leg and forefoot. The leg at times was held in a flexed position. He had had various types of physiotherapy, injections around the sciatic nerve and various types of back supports without relief. He had many attacks, frequently was unable to lie on the affected side, usually resting on the right side with the left thigh flexed. He was more comfortable in bed. He had had a list toward the left side for some days. There was pain in the left posterior thigh when sitting; bending back or stooping aggravated the pain. He walked with a cane.

The physical examination showed a patient standing with a list toward the left side. There was little motion in the lumbar back. Upon attempted bending there was acute pain over the left sacroiliac and posterior superior spine of the ilium. Straight-leg raising past 30 degrees caused pain in the neighborhood of the left sacro-iliac. There was no pain on spine rocking. There was tenderness of the left calf muscles and an absent Achilles jerk on the left with $\frac{3}{4}$ inch atrophy of the left calf. The neurologic examination was otherwise normal. Roentgen ray and spinal fluid studies were negative. Stripping of the fascia of the gluteus maximus and the fascia of the sacrospinalis was done in March, 1933. There was complete relief the afternoon after the operation and there has been no return of pain up to the present time.

Review of 50 patients subjected to fascial stripping operation:

Age

Youngest—16 years
Oldest—57 years
Average—34 years

Sex

Male—32
Female—18

Side affected

Right—23
Left—25
Bilateral—2

Total duration of symptoms

Longest—20 years
Shortest—6 weeks
Average—4 years 10 months

Average duration of attack—12 weeks

Number of attacks—2 to 10

All partially or totally disabled

Tendo-Achilles reflex absent in 14 cases

Type of operation

Iliotibial band division alone—11 cases
Sacro-iliac fascia and iliotibial band combined—19 cases
Sacro-iliac and sacrospinalis fascia—20 cases

Results

Immediate and complete relief—28 (56 per cent)
Immediate and incomplete relief—12 (24 per cent)

Examination one year later—7 of 12 patients who were incompletely relieved obtained relief.

Total obtaining complete relief—70 per cent

No relief in 3 patients



FIG. 2

This drawing indicates the impingement of the herniated disk upon the caudal nerves at the level between the fourth and fifth lumbar segments.

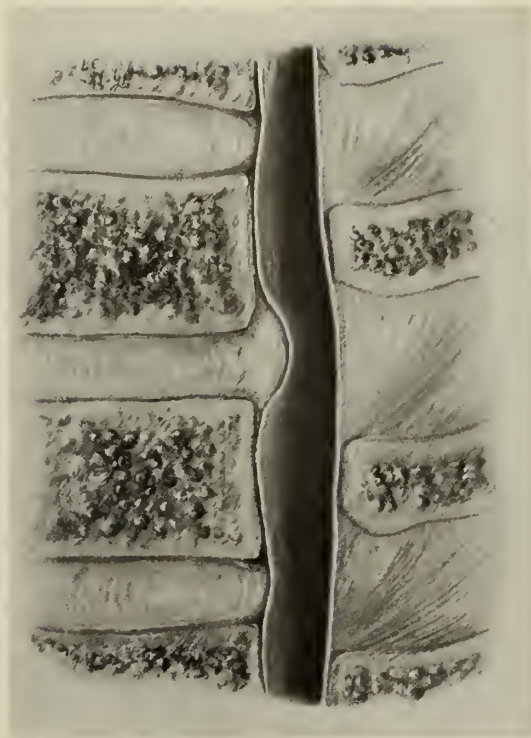


FIG. 3

A schematic illustration of a cross section of lumbar spine showing encroachment of a herniated disk upon the dura.

sacral strain were really rupture of an intervertebral disk. This diagnosis, therefore, has to be considered in the study of every case of pain low in the back, and sciatica. While this rupture of a disk may occur at any site in the spine, about 90 per cent of them appear in the low lumbar region (Figs. 2 and 3). The patient is usually a healthy, vigorous man between the ages of 20 and 50 whose chief complaint is pain radiating unilaterally down the posterior part of the thigh and the posterior lateral part of the calf. There may be pain in the buttock or in the lumbosacral or sacroiliac region. Bilateral radiation of pain, muscular weakness or paralysis, and incontinence of urine and feces may occur, indicating severe damage to the cauda equina. A history of trauma to the lower part of the back is obtained in about 80 per cent of such cases. Frequently there is a history of remissions and exacerbations of symptoms. It is interesting that prolonged rest in bed, traction on the affected leg and plaster corsets frequently give temporary relief.

A second type of low back pain with sciatic radiation results from a *herniated intervertebral disk*. While Goldthwaite, some twenty-five years ago, suggested the possibility of this clinical picture, nothing appeared in the literature regarding it until the report of Mixter and Barr in August 1934.³ They reported upon 19 cases verified at operation during the previous decade. At first this syndrome was thought to be rare, but investigation has revealed that a considerable number of cases previously classified as sacro-iliac or lumbo-

On physical examination, limitation of motion of the lumbar part of the spine by muscle spasm is the most characteristic observation. The usual lumbar lordosis is dimin-

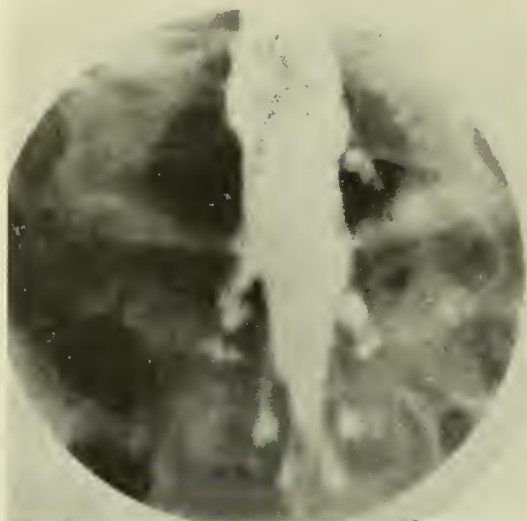


FIG. 4
The appearance of the normal caudal sac injected with iodized oil.

ished or obliterated. Kyphosis may be present to such an extent as to simulate vertebral collapse. A fixed, and occasionally an alternating, scoliosis may be present. Straight-leg raising is limited almost always unilaterally and sometimes bilaterally. There is local tenderness over the lumbar spinous processes and interspinous ligament at the site of the lesion in many of the patients. There may be tenderness over the course of the sciatic nerve. In most patients certain positions relieve and others aggravate the radiating pain. Neurologic changes, motor, sensory and reflex, may be totally absent in perhaps half the cases. The most common neurologic finding is absence or diminished ankle jerk on the affected side. Sensory impairment is rarely demonstrated. Elevation of the total protein content of the spinal fluid about 40 mg. per cent is usually present, although not always so, as will be demonstrated in a patient to be presented. The elevation of the total protein is thought to be due to irritation of the nerve roots and not to a block in the circulation of the spinal fluid. If there is an elevation of the total protein to above 40 mg. per hundred cubic centimeters, iodized oil should be injected and roentgen-ray studies made. If the total protein is not elevated, then a decision as to the use of the oil depends upon appraisal of the clinical picture.

The roentgenoscopic examination, after injection of the iodized oil, is the most impor-

tant step in the diagnosis. The lesion can be accurately localized and readily demonstrated on the roentgenogram. A constant filling defect in any region is recorded by serial roentgenograms taken in various angles of rotation of the patient. If no filling defect is seen in the anteroposterior view, the examination is considered to show no evidence of ruptured disk (Fig. 4).

A 20-year-old white female originally entered the Lakeside Hospital in May 1937 because of pain in the right hip and buttock, radiating down the posterior aspect of the thigh to the lateral part of the foot. This pain appeared 4 months previously, following a fall. Pain first appeared on bending and was accentuated by any motion of the back. The back was manipulated under anesthesia and a plaster jacket was applied and worn for 4 weeks. She was comfortable until removal of the jacket when symptoms recurred and pain was severe enough to awaken her at night. Slight numbness on the dorsum of the foot appeared. The patient was readmitted to the hospital in July, at which time the physical examination showed a well developed girl who stood with the right thigh flexed and adducted without weight on this leg. There was an alternating scoliosis; forward and lateral bending were normal but extreme pain was present on hyperextension of the back. Straight-leg raising on the right produced pain. The neurologic examination was normal except for diminished ankle jerks. Lumbar puncture showed clear fluid under normal pressure; Pandy test was negative, cells 5, total protein on two separate fluids 29 mg. Roentgenograms of the spine and pelvis were normal. Because of the normal spinal protein the patient was placed on a frame and bilateral traction was applied to the legs for 10 days. This gave relief of pain but some paresthesia developed over the calf of the leg; this cleared up upon removal of traction, but the former pain recurred with the same degree of severity. A reversed Queckenstedt test was done and, upon injection of 10 cc. of 1 per cent novocaine, such severe pain developed down the leg that it had to be discontinued (a positive test). Lipiodol, 4 cc., was then injected and revealed a filling defect between the third and fourth lumbar, and fourth and fifth lumbar vertebrae (Fig. 5).

On Aug. 8, a laminectomy was performed. The neural arches of the third, fourth and fifth lumbar vertebrae were removed. A mass 1x1.5 cm. could be palpated between the fourth and fifth lumbar on the right side. This was pressing upon the root of the fifth lumbar. Fibrocartilaginous tissue was excised. The patient made a normal convalescence and was discharged 3 weeks postoperatively, with complete relief. Follow-up 3 months later showed no return of her pain.

In the present state of our knowledge we cannot make an accurate clinical diagnosis of ruptured intervertebral disk and we must rely on roentgen studies after the subarachnoid injection of a contrast medium to verify clinical

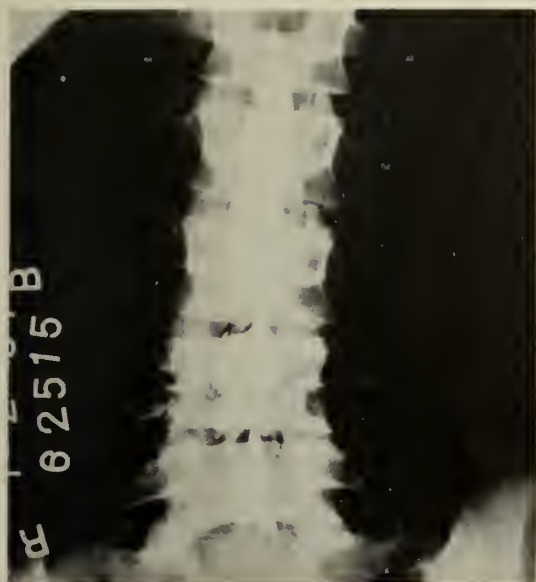


FIG. 5

The notch in iodized oil on the right side between the third and fourth, and fourth and fifth lumbar vertebrae indicates the herniated intervertebral disk.



FIG. 6

The almost symmetrical hour glass constriction of the iodized oil indicates the impingement of the hypertrophied ligamentum flavum upon the caudal canal.

suspicious. Iodized oil should not be injected into the spinal canal of every patient suffering from "sciatica." Prolonged, adequate, conservative orthopedic care should be insisted upon in every case of suspected rupture of an intervertebral disk before the oil is injected. Injection of saline solution or procaine, manipulation, and fasciotomy may be included as conservative measures.

The third condition which may produce a clinical picture not unlike the two previously discussed, although comparatively much rarer in occurrence, is *hypertrophy of the ligamentum flavum*. Hypertrophy of the ligamentum flavum with compression of the cauda equina was first described by Elsberg⁴ in 1913. He reported a single case in which the hypertrophy followed direct injury to the fourth and fifth lumbar vertebrae. More recently Spurling⁵ reported seven cases.

The ligamenta flava are composed normally of yellow elastic tissue and connect the laminae of contiguous vertebrae. They blend with the interspinous ligament and enter into the formation of the capsules of the articular facets, and their lateral edge forms the posterior margin of the intervertebral foramina. At times they may undergo hyperplastic change and become so increased in thickness that they encroach upon the spinal canal, thereby compressing the spinal cord. This

hyperplasia presumably is possible at any level but has only been reported in the ligaments of the lumbar spine.

Briefly, these patients usually complain of pain low in the back; frequently there is a history of trauma. Usually the acute attack of low back pain has been followed by a period of relief after a few days or weeks, only to recur insidiously until the patient is incapacitated by pain. These patients are usually not relieved by the recumbent position. Sudden change of position usually exaggerates the discomfort. Coughing, sneezing or straining at stool augments the pain.

Radiation of pain is usually unilateral, following the sciatic distribution. In contrast to the patients with herniated disk there is more frequently sensory and sphincteric involvement. Scoliosis and spasm of the sacrospinalis muscles are frequent, tenderness to pressure over the spinous processes of the lower lumbar region is a constant finding, as well as tenderness over portions of the sciatic nerve. The Achilles reflex is usually diminished to absent. Spinal fluid studies rarely show any abnormality other than a constant elevation of the total protein content. It might be helpful perhaps to present one further protocol of a patient who presented this finding and who was operated on in July, 1937.

The patient was a woman, 45 years of age, who entered the Lakeside Hospital with the complaint of pain in the lower back radiating down the left thigh. These attacks occurred in exacerbations over a period of 10 years at intervals of every 1 to 2 years. The present attack had been the most severe and had kept her awake at night: it was aggravated by use of the back in bending, by coughing or sneezing. There was no history of definite injury. Former attacks had been relieved by rest and strapping with adhesive. Physical examination revealed tenderness of the lumbar spine and both sacroiliacs with 50 per cent limitation to forward bending, with no hyperextension. Straight-leg raising on the left side caused some pain, past 80 per cent. Spine rocking was painful. The reflexes were normal. Spinal fluid—normal dynamics; total protein 45.5 mg. per cent. The roentgenograms were negative. Five cubic centimeters of iodized oil were injected and this showed a constant filling defect between the fourth and fifth lumbar vertebrae (Fig. 6). On July 26 a laminectomy was carried out at the above site. Findings showed marked thickening of the ligamentum flavum and encroachment upon the dura at the fourth and fifth lumbar over both lateral portions. This was excised. Further exploration failed to reveal further pathologic change. Three months later the patient was still relieved of the former pain.

The cause of this lesion is still open to some question of doubt, but from the reported cases it would appear that direct trauma to the ligament and lamina, either acute or chronic, is most likely. This supposition is strengthened further by the fact that the lesion has always occurred at the lumbar spinal joint of greatest mobility. The ligamenta flava are placed on increased tension with the body in flexion. Also any shift of the pelvis which decreases the lumbar lordosis puts an increased strain on the ligaments. The histologic picture of these involved ligaments shows replacement of the normal yellow elastic tissue with white fibrous tissue in which there are calcareous deposits; such a reaction suggests trauma in the beginning and in the process of healing, or, as the result of continuous trauma, an excess of scar tissue laid down.

CONCLUSIONS

In this discussion of patients with low back pain and sciatic radiation I have attempted to present three separate lesions, namely, *fibrositis*, *herniated intervertebral disk*, and *hypertrophy of the ligamenta flava*, which usually show a similar picture upon the basis of history and clinical examination, so alike that grouping them together for purposes of understanding seemed to be justified.

It can be said that the past few years have added much to our knowledge of a rather

poorly understood syndrome. Further, it would seem that a diagnosis can be arrived at in the great majority of these cases; at least the location of the site of the trouble can be determined and a decision made as to whether surgery should be resorted to.

The results of surgery in these cases has proved most gratifying. With further study it is hoped that we shall have a better understanding of the pathologic picture and the physiologic mechanism of the production of pain in the cases of fibrositis, since this composes a fairly large group of patients. Until a very few years ago the function of the intervertebral disk and nucleus pulposus was not understood and the disturbance produced by injury to the disk was not recognized. While hypertrophy of the ligamenta flava occurs in a relatively small number of patients, so far as we know at present, still its occurrence must be recognized in the study of all patients with low back pain, and surgical removal accomplished when necessary.

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STUDY OF PEPTIC ULCER BASED ON NECROPSY RECORDS

According to SIDNEY A. PORTIS and RICHARD H. JAFFE, Chicago (*Journal A. M. A.*, Jan. 1, 1938), in a series of 9,171 consecutive necropsies performed at Cook County Hospital from Jan. 1, 1929, to Dec. 31, 1936, there were 457 cases of all types of peptic lesions, or a total incidence of about 5 per cent. The incidence of peptic ulcer in white people was found to be 5.23 per cent and in Negroes 3.5 per cent. The incidence of peptic ulcer is greater in the white male than in the white female; the difference according to sex is not as marked in Negroes. There was definite evidence of activity of the peptic ulcers in 339 necropsies. In 118 cases peptic ulcer was the essential lesion; in 221 it was the incidental lesion. Therefore, the incidental lesion was almost twice as frequent. When peptic ulcer was the essential lesion the duodenal ulcer predominated, while when peptic ulcer was the incidental lesion the gastric ulcer predominated. The peak for the incidence of peptic ulcer in the male is reached in the period from 51 to 60 years; the peak for the female is reached in the period from 31 to 40 years, while for the white female there is a second peak from 61 to 70 years. Hemorrhage as a cause of death was observed in 0.43 per cent of all the necropsies and in 18.3 per cent in which peptic ulcer was seen as the essential lesion.

TUMORS OF THE BLADDER

Benign and Malignant

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In recent years two factors have assisted greatly in standardizing, at least for us, the management of bladder tumors. They are:

1. Improvement in the equipment for transurethral resection, and fulguration of bladder tumors.

2. Recognition of the advantages of deep x-ray therapy when applied according to the Coutard plan.

It is generally conceded that benign papillomas are likely to undergo malignant degeneration when neglected. Moreover, it is believed that a patient with a benign or a malignant tumor is more likely to develop tumors in new sites than other individuals.

With these two important factors in mind it is obvious that the management of bladder tumors requires more than the mere destruction or removal of the existing tumor. It requires measures to lessen the tendency for further tumor growth. Furthermore, it requires repeated cystoscopic examinations to recognize recurrences *at the site* of the primary tumor or *new growths* which are likely to develop elsewhere in the bladder.

Would not these facts appear to indicate the need of total cystectomy, with transplantation of the ureters into the intestine or externally in the loin or lower abdomen, as the method of choice in dealing with bladder tumors? Such a plan would, of course, be a logical procedure except for the high mortality rate which attends such formidable procedures. Even so, such a plan might seem inevitably indicated if milder measures did not afford reasonably good results, with a much lower immediate mortality rate and amelioration or apparent cures which compare favorably with cystectomy.

Cause of bladder tumors. Except the tumors which are prone to develop in the bladders of aniline dye workers, the cause of benign or malignant vesical tumors is not

known. Preexisting chronic inflammation, as first advanced by Billroth, is not supported by facts, nor is the opinion that leukoplakia undergoes malignant degeneration. We are of the opinion that obstructive lesions of the vesical neck and urethra are predisposing factors in the development of bladder tumors. While we have no means of proving this idea it appears to be supported by the fact that among the largest series of cases reported in the literature the preponderant percentage of bladder cancers of males varies from three to ten times that of females. As is well known, the male is more frequently affected with obstructive lesions than is the female. The small papillomatous growths often seen at the urethro-vesical junction are nearly always present in patients with obstructive lesions of the bladder neck or the urethra. Furthermore, in our own experience, since we have tentatively held this idea, we have found that more than 95 per cent of bladder tumors have been found associated with definite, although not marked, urethral or bladder neck obstructions. We have not, however, found tumors more prevalent in tight urethral strictures. The tumors have usually been in patients with a moderate degree of obstruction. Whether this observation concerning the incidence of bladder tumors has any significance we do not know. We would greatly appreciate the views of other urologists concerning this point. The idea can soon be disproved if any considerable number of patients with bladder tumors are found free from obstructive lesions of moderate degree.

Diagnosis. Since the treatment of bladder tumors, whether benign or malignant, is so nearly the same the important point is early recognition and destruction of the tumor rather than quibbling over differentiation or the plan of treatment. Certainly it must be admitted that neglected or recurrent benign growths are likely to undergo malignant degeneration. Generally speaking, there is little need to try to make finer differentiation in bladder tumors than to recognize the following.

1. Apparently benign papilloma.
2. Papillary carcinoma.
3. Carcinoma with a more or less broad infiltrating base.
4. Carcinoma which is more like thicken-

ing or infiltration, or meaty masses which protrude into the bladder wall.

5. Papilloma which protrudes from the ureter into the bladder.

6. Carcinoma which is an extension from an adjacent structure outside the bladder, such as from the uterus.

It is exceedingly important to note whether tumors are pedunculated or whether they have broad bases and whether single or multiple. The determination of these points plays a considerable part in the prognosis and treatment, and in deciding the frequency of subsequent observations.

As would be expected, recurrences are much more likely when the tumors are multiple than when they are single; single and pedunculated tumors rarely recur.

The main point in the diagnosis of bladder tumors which needs the greatest emphasis, however, is not any of the foregoing points but rather the importance of *early* recognition of bladder tumors. Organized and sustained propaganda to the general practitioner is greatly needed. He first sees these patients and should be repeatedly and forcibly impressed with the dangers which arise from neglect of painless hematuria, even though slight in amount and appearing only periodically.

Diagnosis. The likelihood of cures of bladder tumors varies, as has been indicated already, with the promptness with which they are recognized and with the thoroughness with which they are destroyed. Repeated cystoscopy to detect early recurrences is just as important as early destruction of the primary tumor. Unfortunately bladder tumors at first are painless. If they caused more pain they would not be so frequently neglected. As a rule, metastases do not occur as early as in cancer of the prostate. Naturally they play an important part in the prognosis.

Treatment. As has been implied in the foregoing discussion, tumors of the bladder should be treated early. This can never be accomplished as long as distinct danger signals such as hematuria and persistent cystitis are treated with hemostatic agents or urinary antiseptics, without a correct diagnosis of the causative factor producing the urinary disorder. Enough has not been done by urologists when they devote the major part of their papers to the management of advanced lesions

of the bladder. The urologist, who knows better than other practitioners of medicine the vital importance of *early* diagnosis in the treatment of bladder tumors, should make a constant effort to emphasize the need for determining the cause of hematuria.

Considerable experience with transurethral resection of bladder tumors followed by well screened deep x-ray therapy according to the Coutard plan has convinced us of the value of this plan of treatment for such growths, benign or malignant. Small single papillomas when thoroughly destroyed by fulguration need not be followed by deep x-ray therapy unless they show a tendency to recur. To determine the recurrence promptly, periodic cystoscopy is essential. It is not sufficient to dismiss the patient with instructions to return if blood appears in the urine.

If papillomas are of considerable size, or if they have a fairly broad base or if they are multiple, deep x-ray therapy should be employed regardless of the pathologist's report as to whether specimens removed for tissue study are shown to be benign or malignant.

Since tumors are likely to appear at sites other than that of the original tumor it appears that deep x-ray therapy is preferable to radium because a wider area is subjected to the rays, thus inhibiting the growth of lesions too small for recognition.

The transurethral resection of large tumors of the bladder, using the cutting current through a resectoscope sheath with a shorter projecting beak than that employed for prostatic resection, permits the removal of even large tumor masses, and usually at one sitting. After the mass is resected its base is well coagulated. Except for small papillomas, anesthesia, preferably low spinal, is always employed in order to permit thorough, unhurried removal or destruction of bladder tumors with adequate coagulation of the sites of attachment.

As we look back over our experiences with coagulation of bladder tumors we are impressed with the inadequacy of the early work because we did not then have available the cutting current nor was the anesthesia routinely employed. Most of the time, at best, we had to be content with coagulation of the protruding part of a tumor of any size and not its base.

Postoperative care. One month after the resection of bladder tumors, cystoscopy is done. If only minor abnormalities appear they are coagulated, using local anesthesia. If a mass of any considerable size is seen it is resected as above described, using low spinal anesthesia. X-ray therapy for extensive or multiple benign tumors and for all carcinomas of the bladder is started within a few days after the transurethral resection of these growths. It is given according to the Coutard plan of light, well screened doses every day except Sundays for one month, and sometimes longer. During this time an effort is made to subject the bladder to three thousand to four thousand roentgen units. The dosage, the screening and the frequency of treatments should be regulated so as to avoid bladder or rectal irritation or more than a moderate hyperemia of the skin.

For tumors which protrude from diverticula or from the bladder opening of ureters the above plan is not sufficient. Operative procedures are required in such cases and are carried out according to the indications made evident by a careful interpretation of the cystoscopic study, cystograms, ureterograms, pyelograms, and the general condition of the patient.

How much to resect or fulgurate tumors overlying ureteral openings must be determined by cystoscopic and x-ray studies, not only of the bladder but of both ureters and both kidneys, anatomically as well as functionally.

Time prevents a consideration of the unusual types of tumors of the bladder.

The most unsatisfactory carcinomas to treat are those which are extensive infiltrations of the bladder wall with only slight protruding masses. Equally difficult are the cancers which are extensions from adjacent structures. Their management is naturally dependent upon the character and site of the primary growth.

Conclusions

1. Tumors of the bladder should be suspected whenever there is painless recurrent hematuria, even though it is only slight in amount.

2. Benign bladder tumors are likely to undergo malignant change when neglected.

3. Good results cannot be obtained in the

treatment of a large percentage of patients with vesical tumors unless an early diagnosis is made.

4. The best means for removal of small tumors is high frequency coagulation.

5. Large tumors, benign or malignant, are removed by the transurethral resection of the masses with the cutting current. The bases of the tumors, so removed, are then coagulated.

6. Deep x-ray therapy according to the Coutard plan is preferable to radium implantation at the sites of carcinomas.

7. Following the destruction of tumors, periodic cystoscopic observation is absolutely essential so that recurrences may be treated early.

STAPHYLOCOCCUS SEPTICEMIA*

Treatment with Bacteriophage

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Staphylococcus bacteremia is probably of rather frequent occurrence. Park and Williams¹ state that it is remarkable how many staphylococci may be present in the blood without a fatal result if the source of infection has been removed. However, true staphylococcus aureus septicemia, with multiple foci, is not as common, and is almost invariably fatal. In the literature there are occasional reports of cures of septicemia with intravenous charcoal or gentian violet; with vaccines, transfusions and, more commonly in the past two years, staphylococcus toxoid. But in general the prognosis is poor. D'Herelle² states that 99 per cent of patients with staphylococcus septicemia die. MacNeal³ says that prior to 1929, at the New York Post-Graduate Hospital, all patients giving two successive positive staphylococcus blood cultures died. It is necessary to look further for some form of treatment for these patients. The danger of relying blindly on new chemotherapeutic agents is obvious. I do not say that sulfanilamide can do these patients harm, but when it is being given, adequate bacteriologic studies will be neglected and valuable time lost.

*Read before the Seventh District Medical Society, Rome, September 29, 1937.

The phenomenon of the bacteriophage was described by Twort in 1914 and soon D'Herelle became the principal investigator, and gave the phenomenon its name. There is evidence to show that bacteriophage is a living proliferating virus capable of attacking bacteria and dissolving them. On the other hand, phage has been obtained from lifeless autoclaved sewage. Possibly it is only an enzyme, or the lytic agent may be a ferment given off by the virus. There is not complete specificity. Phages of typhoid bacilli may apparently be adapted to attack colon bacilli. Therapeutically, a specific or autogenous phage is found to be much more effective than a non-specific phage. One obtained from the stool of a patient with chronic bacillary dysentery, when passed through successive filtrations, will be very effective in the treatment of that person's disease if administered by mouth. In regions of Brazil bacteriophage by mouth has supplanted all other treatment in bacillary dysentery; the use of serum has been abandoned. In India, in 1927, one writer found the mortality in Asiatic cholera to be 62.9 per cent among the controls and 8.1 per cent among those treated with bacteriophage by mouth. In another hospital in India the mortality was reduced to 3 per cent by use of intravenous phage. In the French literature,^{4,5} there are more frequent reports of the use of phage in staphylococcus septicemia than in this country. Many antigens are being prepared by lysing bacterial bodies or cultures with phage, and several solutions of bacteriophage are on the market for topical application. It has been shown that some phage preparations are ineffective because of their combination with antiseptics,⁶ although they may remain effective in fairly high concentrations of mercuric chloride.

Staphylococci are much more susceptible to bacteriophage action than are streptococci; furunculosis, pyogenic arthritis and osteomyelitis⁶ respond well in some instances to phage treatment.

In the present small series of staphylococcus septicemias I have followed as closely as possible the recommendations of Dr. W. J. MacNeal of the New York Post-Graduate Hospital. To him I am also indebted for the stock bacteriophage and for the isolation and preparation of autogenous phage in the three

cases in which it was used. In the two remaining cases its use was not found necessary. Various reports of failure with bacteriophage treatment may be attributed, in my opinion, to old, inactive, or, non-specific preparations. In my cases, after determination of the septicemia and wiring for air-mail shipment of stock phage, I sent a culture of organisms to Dr. MacNeal for confirmation, for determination of the susceptibility to phage, and for preparation of a specific phage if possible. I have treated five patients, four caused by staphylococcus aureus and one caused by staphylococcus citreus. The immediate mortality was 20 per cent. Another patient died 2½ years later. Necropsy findings related death, in all probability, to the septic infection.

All five patients had undoubted septicemia as proved by blood culture and by the presence of multiple septic foci from which the same organisms were obtained. All were extremely toxic and grew steadily worse until bacteriophage treatment was instituted. All showed a steady decrease in colonies per cc. of blood during treatment. Outside of the intravenous therapy, and incision and drainage of abscesses, no other treatment was used consistently in all cases. Three received transfusions; one received intravenous mercurochrome, gentian violet, metaphen and urotropin. Possibly significant was the fact that this was the patient that died 2½ years later. Only one patient had ether anaesthesia; none had vaccines nor toxoid treatment; none received sulfanilamide nor intravenous charcoal.

Case Reports

Case 1. H. P., aged 21. This boy was in bed 18 weeks following an influenzal pneumonia during which staphylococcus aureus septicemia was found and confirmed by four blood cultures. The same organism was obtained from several skin abscesses. Five blood transfusions were given. After many futile attempts with intravenous dyes, etc., the patient was found to have lost ground steadily. Stock bacteriophage treatment was begun six weeks after the onset of the illness and the blood culture immediately became sterile. However, the temperature continued to rise daily and there was evidence of a perinephritic abscess. Following a severe shock, with a 10 degree drop in temperature, after the first day's treatment with autogeneous-phage, the patient began to improve more rapidly and the temperature dropped to normal. This case has been reported elsewhere in more detail. Two and one-half years later the patient developed symptoms of meningitis which was suspected to be tuberculosis in origin. Necropsy revealed two brain abscesses and two areas of osteo-

myelitis in the interior of the skull. Bacteriologic studies were not reported by the pathologist.

Case 2. C. R., aged 16. On June 5, 1936, patient was admitted to the hospital with a history of having struck his ankle. Two days after injury he was unable to walk. On admission there were multiple areas of osteomyelitis which were opened and drained. He grew steadily worse and two positive blood cultures of staphylococcus aureus were obtained. The same organism was obtained from the bone wounds. On June 26 stock bacteriophage was obtained and he was given increasing doses of 0.5 to 4.5 cc., a total of 11 cc. in all. The temperature rose to 104 F. and the patient had a severe chill. The following day the solution of bacteriophage was injected deeply into the wounds. On June 30 the temperature did not go over 99.6 F. On July 3 and 10 negative blood cultures were obtained. In spite of marked general improvement the infection spread rapidly to the entire left tibia and foot and on July 17 amputation was performed in the left lower thigh. Improvement was then rapid. A sequestrum was removed from the left humerus on Mar. 2, 1937. The patient refused further operation. An intensive course of intravenous phage was again given for one week with much improvement in the general condition and in the x-ray appearance of the shoulder. There remains slight purulent drainage from a sinus in the humerus, but no organism can be obtained. The patient is well, and is ambulatory with crutches.

Case 3. J. C., aged 30. On Jan. 16, 1937, the patient had a fall, the character of which made it probably unrelated to the subsequent illness. He gradually developed stiffness and soreness in the left side of the neck. On Feb. 4 he was admitted to the hospital and two incisions were made in the indurated cervical tissues. Staphylococcus aureus was obtained on culture. The same organism was obtained on blood culture on Feb. 6 showing 10 colonies per cc. of blood. On that day stock staphylococcus bacteriophage was given intravenously. No typical shock reaction was obtained, therefore larger doses were given and, by Feb. 16, the patient showed improvement. On Feb. 12, blood culture showed 6 colonies per cc. of blood and by Feb. 20 it had dropped to 2 colonies per cc. Bacteriophage and azo-chloramide were used to irrigate the wound in the neck. The thickening and induration subsided somewhat but in view of the patient's dysphagia and dyspnea, and considering the appearance of the chest x-ray film, a mediastinitis was strongly suspected. On Feb. 20 an autogenous phage was received and treatment started that afternoon with increasing doses from 1 to 3.5 cc. The temperature began to rise, as is usually observed in favorable cases, reaching 105 F. at midnight. No more bacteriophage was given. In a semi-stupor the patient bit off a large portion of the glass drinking tube, and swallowed much of the ground glass. No lacerations were found in the mouth or throat. Signs of bronchopneumonia became more evident, with increasing cyanosis. He lost consciousness, the right pupil dilated widely, and in spite of various supportive measures he died at 10:30 the morning of Feb. 21. Death was attributed to bronchopneumonia, mediastinitis and a probable cerebral thrombosis.

Case 4. R. M., a girl 12 years of age, was admitted to the hospital April 9, 1937. Ten days before admission she had an intestinal upset with nausea, vomiting, fever and headache. Four days before admission there was increasing swelling and tenderness below the left knee which was followed by tenderness and redness over localized areas on both forearms. On admission her temperature was 103 F., pulse 120. Superficial skin abscesses were opened on both forearms and staphylococcus aureus was obtained, as well as in the blood culture. In spite of adequate drainage of the abscess the temperature continued to rise from 99 to about 104 F. daily. Bacteriophage was started intravenously. The patient began to eat well for the first time during her illness and her temperature started downward not going over 100 degrees at the time an area of osteomyelitis was opened in the right tibia on May 8. This patient received no transfusions or other intravenous treatment. She continues in good health.

Case 5. R. B., aged 26. This patient was seen Nov. 8, 1936, twelve days after delivery, with puerperal septicemia. The temperature had been to 106. She had received omnadin, quinine, fluids intravenously and various supportive measures. She gave a history of having had chills and a rise of temperature to 105 F. following miscarriage $3\frac{1}{2}$ years before. Temperature gradually subsided at that time.

Examination revealed an extremely toxic young woman with temperature of 104 F., pulse 140, respiration 36. The heart was markedly enlarged to the left on percussion. Many moist râles were present at the left base posteriorly and a tender uterus was palpable above the symphysis. Lochia was essentially normal with no foul odor. Blood cultures revealed staphylococcus citreus on three occasions. Following a course of intravenous stock bacteriophage the patient improved clinically and three negative blood cultures were obtained. However, the temperature continued to rise daily to 102 F. She was given urotropin intravenously, and doses of the phage were continued. On Nov. 17 she was given her third transfusion and on Nov. 18 autogenous phage was started and continued until Dec. 8 when she was sent to her home for continued phage treatment. A cystitis and pyelitis which were present did not seem sufficient to account for her continued daily fever. She was re-admitted Dec. 27, temperature ranging as high as 103 F. Intensive phage treatment was again started and by Jan. 6 her temperature was not going over 100. She left the hospital Jan. 12 and a large abscess was found to slowly accumulate over the right hip. On incision this was found to be below the fascia lata and approximately 600 cc. of pus obtained. Improvement then was rapid. The patient is now well, having received weekly injections of bacteriophage for six months.

Summary and Conclusions

1. Bacteriophage is a potent and valuable therapeutic agent in many infectious conditions.

2. In staphylococcus aureus septicemia this method of treatment promises a better prognosis than any other procedure, although

blood transfusions and radical surgery are usually indispensable.

3. Although removal of foci of infection is indicated where possible, the principal aim is the clearing of the blood stream of bacteria. In the consideration of osteomyelitis I agree with Wilenski⁸ in his opinion that operation is often done too early or without proper evaluation of the patient's condition. He states: "Either the patient dies irrespective of the operation or the character of the post-operative course lends itself strongly to the opinion that the operation had no inhibitory effect on the general infection." Incidentally, the same author reports two cases, with blood cultures positive for staphylococcus aureus, in which definite areas of osteomyelitis were not operated and recovery ensued. Treatment was conservative throughout.

4. In severe cases bacteriophage treatment should be continued for six months to insure against recurrence.

5. Although stock reactions are responsible for more rapid clearing of the blood stream, they must be avoided in the presence of certain complications where embolism or thrombosis may occur.

6. More accurate bacteriologic control is needed in all septic cases.

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LAWRENCE S. CAREY and GARFIELD G. DUNCAN, Philadelphia (*Journal A. M. A.*, Jan. 15, 1938), present statistics from the public health department which show that prior to the positive identification of Rocky Mountain spotted fever in the East by Badger, Dyer and Rumreich in 1931 only three cases had been reported east of the Mississippi River. The frequency of recognition of the disease in the Eastern states has steadily increased, however, in the last decade. The authors know of eight cases in the region of Philadelphia in the last two years, and an outbreak occurred in southern New Jersey in the spring of 1937. This continued recurrence of the disease in their vicinity, as well as reports from other eastern localities, has impressed them with the fact that the disease is established permanently in the East.

THE FAMILY DOCTOR VERSUS FEDERAL MEDICINE SOCIALIZED

J. C. ORR, M.D.

Buford

It's 3:20 A. M. You've just been awakened. In the next room your child is crying. You slip into a robe. In a moment, you're at her bedside.

"What's the matter, dear?" you whisper anxiously.

"My side," she moans. "It hurts awful."

You rush to the phone. There's one person you must see. Your family doctor. . . .

Later when your fears are soothed and your child sleeps comfortably after her treatment, perhaps you exclaim to yourself:

"What would I ever do without Dr. Jackson!"

Imagine, if you can, being deprived of your private family physician. Suppose for a moment that medicine were socialized; that most physicians were federal agents on the government payroll.

What kind of treatment could you expect then?

Let's see. . . .

Under socialized medicine, patients flock to the doctor. Their complaints may be trivial. But they're taxed for the cost of treatment whether they're ill or not. So they want their money's worth.

You can imagine the result.

"Illness" naturally increases. The number of cases to be treated shoots skyhigh. The burden on the physician is staggering. He runs from patient to patient. He is constantly making rounds at the hospital. His office is jammed.

A doctor's time belongs properly to his patients. But under socialized medicine, a large proportion of it has to go into book-keeping. There are authorizations to be obtained, government reports to be filled out in duplicate and triplicate, a multitude of records to be kept, and endless correspondence to be handled.

The ill-effects of this overwork on the physician are obvious. Less obvious—yet far more serious—are the ill-effects on the patient. For example:

The harassed doctor is often unable to answer calls promptly. If the case isn't serious,

this may not make much difference. But suppose it is serious. The patient may then find himself in a grave predicament.

Even when the doctor does finally arrive, his treatment is bound to be hurried and impersonal. Demands on his time are such that he must rush off as quickly as possible on his next call. This means that the patient will receive a quick once-over at best, followed by some handy stock prescription.

Seldom does the socialized physician get an opportunity to study his patient the way he should. You, for instance, are not the Mr. or Mrs. Brown he knew since the day he delivered you. To the government agent you are merely ledger entry No. 1397.

If you go to the doctor's office you have to wait indefinitely. When your turn finally comes, he can seldom give you more than three or four minutes of his time. Naturally, he'll do his best under the circumstances. But lack of time for proper diagnosis and treatment is a severe handicap. It may outweigh his most conscientious efforts.

Remember, too, that under socialized medicine the physician is not paid by you. He is paid by the government, to whom he is responsible. Whether you live or die, therefore, has little effect on his material success.

But—you suggest, at least the doctor won't send me any more bills!

True. He won't. But the government will. Of course, they won't be the familiar white slips of paper. They'll take the form of taxes. And they'll hurt!

In this country today, you pay for medical care only when you're sick. Under socialized medicine, you pay all the time. And you're responsible for the medical bills of millions of other people besides yourself.

Nor do you pay only for treatment. You pay the fat salaries of useless political appointees. You pay the waste and mismanagement always associated with bureaucratic control.

Of course, you may figure:

Socialized medicine costs more. Therefore, the care I receive should be better.

It should. But is it!

Examine the vital statistics of countries that have had socialized medicine for years. Look at their death and sickness rates. See how much higher they average than those of

the United States. The record is enough to make any American thank God for our present system of private practice.

Oh well, you may say, why should I worry? We don't have socialized medicine in the United States.

Quite right. We don't—not yet. But even as you read this, certain congressmen and state legislators are planning to foist such a system on the public! Legislation with socialized medicine can scarcely be equaled.

Who will be hurt most by such a system?

Not the doctor. He is essential to any medical system. The real victim will be you, the American patient.

Frankly, that's the reason for this article. To give you the facts. To show you the vital importance of helping yourself.

It's you who stand to lose the most if socialized medicine is admitted to the United States. It's up to you, therefore, to keep it out!

A COUNTRY DOCTOR

He was an old-fashioned country doctor. Receiving a sick call late at night, he saddled his horse and rode out into hills through a storm. "When his horse could go no further, he proceeded afoot, fell over a cliff, and died of exposure." Such is the Associated Press report on the passing of Dr. James Henry Chapman, of Cedarville, West Virginia.

The terse news item tells nothing more of the old physician's career or personality. But we picture him as a gray-haired man, slightly stooped in his frayed overcoat, somewhat gruff in manner, but with incomparable kindness in his eyes. He was born, we fancy, in a little town or on a farm and, despite his positive character and prompt decisions in moments of emergency, was always a good deal of a dreamer.

He often wished that he could have had broader advantages in his student years and more up-to-date facilities as his practice grew. But he made the best of what he did have, and neither his keen knowledge of human nature nor his tireless sympathy with human sorrows could ever have been gained from books. When he entered a sick room, the whole family as well as the patient felt better. Many a joke had he; and though in his latter days he would sometimes tell them twice over, they were always relished. How many nags he had worn out in his journeys up and down the countrysides, nobody knew; but every one knew that he would come when called, to rich or poor, day or night, shine or storm.

(Continued on page 162)

THE JOURNAL

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ORGANIZED MEDICINE

Organization began as soon as prehistoric man learned just a little of its value. This may have occurred before the spoken language came into use and probably was the result of man's observation of the lower forms of life. From that simple beginning organization has developed in all fields of human endeavor to the point where it is necessary if progress is made.

Physicians were slow to accept the advantages of combined effort, due perhaps to their location in widely separated areas. However, the post office, the press, the telegraph, the telephone, the radio and improved ways and methods of transportation gradually spread knowledge throughout centers of population and into remote districts, thus increasing the efficiency of physicians and aiding in the fight against disease. Most physicians realized the great value to them and their patients the benefits to be had from organized medicine, and naturally desired to help in furthering the advantages by supporting it in every way possible. Of course, there were a few who were throw-backs to primitive selfishness and gathered and used information from the workers in the manner of drones, never making an effort to contribute anything to the organization. Time, the great healer, has changed matters and now only an occasional physician is found who refuses to join with his colleagues in a common cause. Still some of our members are poor supporters; this must be overcome, for the time is at hand when every member must take part in working out plans which will be to the best advantage of our people, our government and ourselves.

It is particularly fine to see young physicians taking active parts in medical societies because it shows that they have a clear understanding of true values at an age which assures many years of usefulness to their organization and their patients. From this group come valuable leaders. There are many men

in our profession who do their most effective work at home, where they work quietly among office-holders and other influential citizens in sponsoring health activities for the benefit of their respective communities. Finally, there is another group of physicians, too few I regret to say, that serve their State by holding public office.

Supporting medical societies is an unselfish act. Unselfishness should be cultivated and made a part of every physician's life. The way we live may help our patients through many of their difficulties, for both our thoughts and deeds either build up or tear down the physical, moral, mental and spiritual values in our respective communities. The boundaries of every community are continually expanding, and through the friendly contacts formed with our fellow practitioners in medical meetings, we teach and are taught the newer methods of disease control. I cannot recall a single medical meeting from which I did not bring away useful information. Every reputable practitioner of medicine in Georgia should be a member of his county medical society, THE MEDICAL ASSOCIATION OF GEORGIA and *The American Medical Association*. Will you do your part this year by getting a new member for your society, and by taking an active interest in all affairs of your organization? Surely you will profit in this effort.

J. A. REDFEARN, M.D.

THE HARDMAN LOVING CUP*

The name of Dr. J. L. Campbell, Atlanta, is the fourth to be engraved on the Hardman Loving Cup. Copy of the inscription follows:

"James LeRoy Campbell, M.D.
Atlanta, Georgia

Chairman of Cancer Commission
Medical Association of Georgia

For 20 Years

Educational Work and Author of
Legislative Act Providing Treatment
for Indigent Cancer Sufferers
1937."

Other names engraved on the Hardman Loving Cup prior to that of Dr. Campbell's were: Dr. Roy R. Kracke, Emory University; Dr. J. A. Redfearn, Albany; and Dr. Glenville Giddings, Atlanta.

Dr. Lenartine Griffin Hardman was an active member of the Medical Association of Georgia for fifty-nine years.

*Given to the Medical Association of Georgia by former Governor L. G. Hardman, M. D., Commerce.

WOMAN'S AUXILIARY

OFFICERS 1937-1938

President—Mrs. Ralph H. Chaney, Forest Hills, Augusta.

President-Elect—Mrs. Warren A. Coleman, Eastman.

First Vice-President—Mrs. H. G. Banister, Ila.

Second Vice-President—Mrs. J. Lon King, 223 Buford Place, Macon.

Treasurer—Mrs. W. A. Selman, 760 Penn Avenue, N. E., Atlanta.

Third Vice-President—Mrs. R. S. O'Neal, La-Grange.

Recording Secretary—Mrs. Cleveland Thompson, Millen.

Corresponding Secretary—Mrs. W. E. Matthews, Jr., 2804 Lombardy Center, Augusta.

Historian—Mrs. Clem Brannen, Moultrie.

Tenth District

The winter meeting of the Woman's Auxiliary to the Tenth District was held at the Doughty Nurses' Home in Augusta on February 16, the chairman, Mrs. Stewart Brown, of Royston, presided. Mrs. H. W. Birdsong, of Athens, gave the opening prayer and Mrs. C. M. Burpee, President, Richmond County Auxiliary, welcomed the visitors. Mrs. Brown responded.

Mrs. H. G. Banister, of Ila, introduced the following speakers and guests: Dr. George Traylor, of Augusta, president of the Medical Association of Georgia; Dr. C. C. Aven, president of Fulton County Medical Society; Mrs. Ralph Chaney, of Augusta, president of the Woman's Auxiliary; Mrs. Brown, district chairman and state chairman of Conservation of Youth for the Georgia Federation of Women's Club; Mrs. Fannie D. Shaw, director of Division of Health Education, State Department of Public Health; Mrs. C. C. Aven, state treasurer of the Service Star Legion; and Mrs. H. B. Ritchie, state commander of the Woman's Field Army for Control of Cancer.

Dr. Traylor spoke on the objectives of the Medical Association, urging the Auxiliary to "help spread the gospel of health" and Dr. Aven talked on "Socialized Medicine." Mrs. Chaney urged the cooperation of doctors' wives in the work of the Auxiliary and Mrs. Brown read an article on "Power of Women." Miss Shaw reported on the work being done in health education in the state, and Mrs. Ritchie discussed the control of cancer in the State.

Mrs. Burpee, of Richmond; Mrs. Harper, of Hart; and Mrs. Banister, of Clark, reported on the work being done in each county. Roll call of counties was Richmond, 16; Hart, 2, and Clark, 6.

Musical selections were given by Mrs. Richard Torpin and Mrs. Eugene Matthews, of Augusta. A memorial service in memory of Mrs. D. N. Thompson, of Elberton, was held. Mrs. Harper, of Royston, was elected vice-chairman of the district.

First District

The Woman's Auxiliary to the First District Medical Society held the mid-winter meeting in Swainsboro on March 16. Mrs. A. J. Mooney, of Statesboro, presided. The following committee appointments were announced by Mrs. Mooney: Mrs. J. C. Metts, of Savannah, Student Loan Fund; Mrs. J. E. Mercer, of Vidalia, Public Relations; Mrs. W. R. Dancy, of Savannah, Legislative; Mrs. L. F. Lanier, of Sylvania, Doctors' Day; Mrs. D. D. Smith, of Swainsboro, Research and Romance in Medicine; Mrs. Waldo Floyd, of Statesboro, Jane Todd Crawford Memorial.

Mrs. Ralph H. Chaney, of Augusta, state president, extended the invitation to the state convention and Mrs. Warren A. Coleman, of Eastman, president-elect, gave an excellent talk on organization. Dr. George Traylor, of Augusta, president of the Medical Association of Georgia, spoke on "The Need for the Basic Science Law and the Responsibility and Care of the Medical Indigent" and Dr. Grady Coker, of Canton, president-elect, talked on "The Present Status of the Rural Practice of Medicine in the State of Georgia." After the meeting a joint luncheon with the doctors was enjoyed at the Coleman Hotel.

Registered at the meeting were Mrs. Chaney, Mrs. Coleman, Mrs. Mooney, Mesdames Cleveland Thompson, A. C. Redmond, C. R. Hinson, J. J. Folk, Q. A. Mulkey, of Millen; Mesdames O. S. Gross, J. E. Mercer, C. W. Findley, of Vidalia; Mesdames J. C. Metts, L. W. Williams, W. R. Dancy, Charles Usher, of Savannah; Mesdames C. E. Stapleton, R. L. Cone, J. H. Chandler, R. C. Franklin, D. D. Smith, W. E. Floyd, John Mooney, Jr., of Statesboro; Mesdames T. C. Collier, of Lyons; J. W. Palmer, of Ailey; W. R. Lowe, of Midville; J. L. Neville, of Metter; R. L. Sample, of Summitt; J. W. Daniel, of Claxton; and E. C. Watkins, of Brooklet.

Fulton County

The Woman's Auxiliary to the Fulton County Medical Society entertained the society at a reception on March 30 at the home of Dr. and Mrs. Richard E. Newberry in

to return and undergo longer, continuous treatment. We now have available to the physicians of Georgia, free of charge, capillary outfits for the early diagnosis of syphilis by darkfield examination of the serum from suspicious lesions. We are now supplying at cost—and at a lower cost than ever before—arsenicals and bismuth preparations, and we are bearing the expense of handling and mailing these drugs. Free laboratory diagnostic service is provided for the doctors for their patients, and with the establishment of two branch laboratories at Waycross and Albany the Central Laboratory has been expanded to make possible more efficient service in this work for the physicians throughout the State.

It is the desire of the State Department of Public Health, when special funds are available (either through Federal or local appropriations), to assist all physicians who report these infections by furnishing free arsenicals for the treatment of the indigent and semi-indigent cases of syphilis in Georgia, and also to render more thorough epidemiologic studies of the cases reported so that early cases may be given the benefit of treatment at the right and best time.

It is evident that the advantages to be gained by the private physician through co-operation with this program are manifold; and as the program gains headway the results will manifest themselves to a still greater extent. By means of an educational program equal to any yet waged for the control of disease, the public is rapidly becoming informed about the syphilis menace and is eager to adopt whatever measures may be proved effective in eradicating it. Syphilitic individuals will be persuaded, in greater numbers than ever before, to apply for treatment, and more patients will undergo the completed course of treatment.

Motto: Early diagnosis; adequate, continuous treatment; examination of all contacts for further infection; and complete reporting of all new cases of syphilis.

S. ROSS BROWN, M.D., *Assistant Director*
Division of Venereal Disease Control.

BOOK REVIEWS

Introduction to Dermatology, by Sutton & Sutton. In this textbook there are the efforts of the well-trained young physician, combined with that of his experienced father, resulting in the publication of a very good work as an introduction to dermatology.

Drs. Sutton and Sutton have succeeded in giving to the student a book which includes practically all skin diseases with a concise description of each, giving correctly more space to the common diseases in which the undergraduate will be interested, less space to the rare conditions which are thoroughly considered in the larger texts.

Worthy of mention are the detailed chapters with special emphasis on cancer and syphilis, two diseases with serious prognosis and of vital interest to all physicians.

Under treatment are listed those procedures that are beneficial, yet simple and practical. X-ray and radium are mentioned but briefly, and rightly so, for the use of these agents should be reserved for the experienced.

The book is, in modified form, an abridged edition of the larger textbook of Dr. R. L. Sutton, Sr., a generally acceptable one.

HUGH HAILEY, M.D.

Psychiatric Nursing, by Dr. Wm. S. Sadler. Published by C. V. Mosby Company. This is an excellent text for nurses and somewhat different from the general run in that it takes in many factors of human behavior not ordinarily dealt with. It is thoroughly practical in every respect and evidently written with an eye to the general level and background of nursing education.

W. W. YOUNG, M.D.

The Competent Pediatrician, by W. C. Davison, M.D., Professor of Pediatrics, Duke University School of Medicine. Published by Duke University Press, Durham, N. C. Price \$3.75. This is excellent as a diagnostic aid to all physicians dealing with children. To the pediatrician as well as the general practitioner it is a valuable adjunct. It is a concise summary of pediatric diseases and symptoms. It seems impossible that so small a book could answer so many pediatric problems, omitting nothing of any great value. The author does not mean for this book to be used to the exclusion of clinical experiences but as a reminder of things that we are liable to overlook and as an answer to pediatric questions.

J. HARRY LANGE, M.D.

Emotional Adjustment in Marriage, by Le Mon Clark, M.D. 353 pages. St. Louis. The C. V. Mosby Co., 1937. \$3.00. The author seems well qualified to present the various phases of marital adjustment. He attempts to acquaint young couples, and physicians from whom premarital advice is sought, with facts concerning sex life so necessary for a happy marriage. Certain pitfalls are eminent unless information is available to young married couples consisting of facts rather than taboos. The advisability of premarital examination and consultation is urged. For physicians so consulted, this book is of value.

JAS. N. BRAWNER, JR., M.D.

NEWS ITEMS

THE GEORGIA ALUMNI ASSOCIATION of the Johns Hopkins University School of Medicine held its annual banquet at the Atlanta Athletic Club, Atlanta, February 26th. Dr. Henry R. Slack, LaGrange, president, presided. Dr. Hugh H. Young, Baltimore, Md., represented the University and showed a number of moving pictures. More members were present than ever attended a single meeting of the Association before. Dr. Henry R. Slack, Jr., Baltimore, Md., was ap-

pointed to represent the University but was detained on account of an eye infection. Officers elected for the ensuing year were: Dr. M. T. Edgerton, president; Dr. Floyd A. McRae, vice-president; and Dr. J. H. Kite, secretary-treasurer. All new officers of the Association reside in Atlanta.

THE NINTH DISTRICT MEDICAL SOCIETY met at Commerce, March 15th. The program consisted of *Invocation* by Rev. C. C. Tooke; *Welcome Address*, Dr. A. A. Rogers, Commerce; *Response to Welcome Address*, Dr. E. L. Ward, New Holland; *Reading of Minutes*, Dr. Pratt Cheek, Gainesville; *Medical Societies*, Dr. Geo. A. Traylor, Augusta, president of the Association; *Trend of the Rural Practitioner*, Dr. Grady N. Coker, Canton, president-elect of the Association; *State Medicine*, Dr. L. C. Allen, Hoschton; *Diarrhea*, Dr. Hartwell Joiner, Gainesville; the discussion was led by Dr. B. B. Davis, Gainesville. Dr. Grady N. Coker addressed a meeting of the Ninth District Woman's Auxiliary.

THE GEORGIA MEDICAL SOCIETY, Savannah, met on March 8th. Dr. S. F. Rosen read a paper entitled, *Hansen's Disease*, and illustrated the article with lantern slides; the discussion was led by Dr. J. R. Broderick, Dr. J. C. Metts and Dr. G. H. Lang. Dr. Jno. W. Daniel, Jr., reported a case of *Simmond's Disease*.

THE STAFF MEETING of the Crawford W. Long Memorial Hospital, Atlanta, was held on March 10th. The program consisted of reports by committees and a discussion of mortalities. Dr. Marion T. Benson, Jr., reported a case, *Hydatidiform Mole with Chorionepithelioma*.

THE STAFF MEETING of the Emory University Hospital, Emory University, was held on March 7th. Titles of papers and case reports on the program were: *Fibroma of Vagina*, Dr. Jno. F. Denton; *Recuperative Power of the Kidney*, Dr. Earl Floyd and Dr. Jas. L. Pittman; the discussion was led by Dr. M. K. Bailey and Dr. Chas. A. Eberhart. Case reported, *Atelectasis*, Dr. C. W. Strickler, Jr. and Dr. Gaston Gay; discussion was led by Dr. J. D. Martin.

THE CLASS OF 1888 graduates of the former Atlanta Medical College held its first reunion on March 3rd at the Kimball House. Dr. George C. Trimble was in charge of the arrangements. Members of the class who were present included: Dr. C. G. Chapman, Dr. W. L. Gilbert and Dr. George C. Trimble, all of Atlanta; Dr. A. R. Stephens, Delta, Ala.; Dr. Wm. W. Cornog, Lavonia. Dr. R. H. Oppenheimer, dean of Emory University, was one of the speakers.

DR. KENNON C. WALDEN, Waycross, entertained members of the Ware County Medical Society at dinner on March 2nd at the Atlantic Coast Line Railroad Hospital.

DR. RICHARD BINION, Milledgeville, spoke on *Cancer* before a meeting of the Baldwin County Woman's Auxiliary at the home of Mrs. Chas. H. Richardson, Sr., on February 28th.

DR. C. C. AVEN, Atlanta, president of the Fulton County Medical Society, spoke before a meeting of the

Fulton County Woman's Auxiliary at the Academy of Medicine, Atlanta, on March 4th.

THE FIRST DISTRICT MEDICAL SOCIETY met at Swainsboro on March 16th. Titles of papers and names of writers on the program were: *Malignant Tumors of the Ovary*, Dr. Lee Howard, Savannah; *Case Report*, Dr. J. W. Palmer, Ailey; *Birth Control—Responsibility of the Medical Profession*, Dr. Albert J. Kelley, Savannah; *Cesarean Section*, Dr. R. L. Kennedy, Metter; *Simmond's Disease—Case Report*, Dr. John W. Daniel, Jr., Savannah; *Lobar Pneumonia—Comments on Specific Serum Therapy*, Dr. J. J. Folk, Millen; *Arteriovenous Aneurysm*, Dr. J. K. Quattlebaum, Savannah; *The Early Orthopedic Care of Paralytic Poliomyelitis*, H. T. Compton, Savannah. Program Committee: Dr. A. A. Morrison, Dr. R. L. Neville and Dr. H. Y. Righton, all of Savannah. Entertainment Committee: Dr. J. H. Chandler, Swainsboro; Dr. D. D. Smith, Swainsboro; and Dr. S. S. Youmans, Oak Park. Dr. D. D. Smith, Swainsboro, made the *Address of Welcome*.

DR. A. G. HENDRICKS, Sylvester, spoke on *The Ellis Health Law and Public Health Work in Worth County* before the fifth quarterly meeting of the Southwest Georgia Public Health Association at the Tift County Courthouse on March 17th. Dr. T. F. Abercrombie, Atlanta, Director of the State Department of Public Health, was one of the speakers.

THE MACON MEDICAL SOCIETY of Bibb County met at Ridley Hall, Macon, March 15th. Dr. Olin H. Weaver spoke on *Surgical Treatment of the Diabetic*.

THE PHI CHI MEDICAL FRATERNITY held its annual meeting and banquet at the Druid Hills Country Club, Atlanta, on March 9th. Dr. Allen H. Bunce was toastmaster. Mr. Grover Middlebrooks, attorney, discussed *The Mutual Obligations of the Doctor, Lawyer and the Public*; other speakers on the program included: Dr. Frank K. Boland, Dr. Chas. E. Boynton, Dr. Phinizy Calhoun and Dr. W. A. Selman, all of Atlanta.

DR. RUSSELL H. OPPENHEIMER has been selected to serve as acting superintendent of the Grady Hospital, Atlanta. He succeeds Mr. J. B. Franklin, who resigned to accept the position of superintendent of the John D. Archbold Memorial Hospital at Thomasville.

DR. R. F. PAYNE, State Department of Public Health, spoke before a meeting of the Washington Woman's Club at Washington, Ga., March 3rd on *Public Officials Have Taken Health for Granted*.

DR. J. M. BARNETT, Albany, spoke before a meeting of the Dougherty County Board of Health, March 3rd, on the *Importance of a Spring Index and Routine Blood Tests for Malaria*.

THE STAFF MEETING of the Georgia Baptist Hospital, Atlanta, was held in the Nurses' dining room on the afternoon of March 15th. Titles of cases reported were: *Phlebosclerosis* by Dr. Chas. E. Rushin; *Toxic Thyroid*, Dr. C. W. Roberts and Dr. J. G. McDaniel.

DR. AND MRS. EVERETT L. BISHOP entertained members of the Atlanta Clinical Society in honor of

Dr. Shields Warren, Boston, Mass., in their home at 1024 Williams Mill Road, Atlanta, on March 23rd.

THE STAFF MEETING of St. Joseph's Infirmary, Atlanta, was held on March 22. Dr. Roger W. Dickson discussed *Complete Ossification of the Fetal Head*; Dr. John F. Denton, *Fulminating Post-Operative Peritonitis with Massive Collapse of One Lung*.

THE JACKSON-BARROW COUNTIES MEDICAL SOCIETY met at the Harrison Hotel, Jefferson, on March 7th. Dr. H. C. Sauls, Atlanta, spoke on *Diseases of the Heart*; Dr. George F. Eubanks, Atlanta, *Diseases of the Rectum*.

IF INTERESTED in what is claimed to be a good location to practice medicine, write the Secretary-Treasurer.

DR. INMAN SMITH, formerly of Trion, has moved and opened an office in the First National Bank Building at Rome. He announces that his practice will be limited to pediatrics.

DR. H. M. BRANHAM, Brunswick, celebrated his fiftieth anniversary in the practice of medicine on March 15th.

DR. T. I. WILLINGHAM, Atlanta, spoke before a meeting of the Parent-Teacher Association at Ben Hill on March 16.

DR. EVERT A. BANCKER, JR., Atlanta, spoke before a recent meeting of the Parent-Teacher Association in the School Auditorium at Alpharetta.

DR. W. W. TURNER, Nashville, entertained members of the South Georgia Medical Society at the Woman's Club House in Nashville on March 8 at a steak supper. The Society is composed of Berrien, Clinch, Cook, Echols, Lanier and Lowndes counties.

DR. THOS. P. GOODWYN was elected president of the medical staff at Grady Hospital, Atlanta; Dr. Chas. E. Rushin, vice-president; Dr. C. W. Strickler, Jr., secretary. Personnel of committees—*Intern Committee*: Dr. L. G. Baggett, Chairman; Dr. R. H. Oppenhiemer, Dr. W. S. Dorrough, Dr. T. L. Byrd, and Dr. H. W. Jernigan; *Surgical Committee*: Dr. Ben Hill Clifton, Chairman, Dr. Marion C. Pruitt; Dr. George F. Fuller, Dr. Jos. C. Read, and Dr. I. A. Ferguson; *Standardization Committee*: Dr. Jno. F. Denton, chairman, Dr. Mason I. Lowance, Dr. B. Russell Burke, Dr. C. M. West and Dr. D. Henry Power; *Curriculum Committee*: Dr. L. Minor Blackford, chairman, Dr. Wm. A. Smith, Dr. Dewey T. Nabors and Dr. Geo. A. Williams; *Nursing Committee*: Dr. Martin T. Myers, chairman, Dr. T. I. Willingham, Dr. Alton V. Halum, Dr. Evert A. Bancker, Jr., and Dr. Avary Dimmock; *Record Committee*: Dr. Joseph C. Massee, chairman, Dr. Geo. F. Klugh, Jr., Dr. Chas. W. Daniels and Dr. Jas. L. Pittman; *Program Committee*: Dr. Chas. E. Rushin, chairman, Dr. C. W. Strickler, Jr., Dr. J. D. Martin, Dr. Mark S. Dougherty, Jr., and Dr. Fred F. Rudder.

THE ATLANTA CLINICAL SOCIETY sponsored lectures at the Academy of Medicine, March 23, 24, 25, by Dr. Shields Warren, Boston, Mass., Pathologist to the New England Deaconess and the Palmer Memorial

Hospitals, on *Recent Advances in the Pathology of Diabetes Mellitus, Pathology of the Thyroid Gland, and Radiosensitivity of Tumors*.

DR. J. H. NICHOLSON, formerly of Atlanta, has moved to Madison and opened offices in the Baldwin Building and is associated with Dr. D. M. Carter in the practice of medicine.

DR. M. E. WINCHESTER, Brunswick, Glynn County Commissioner of Health, has just completed the Twenty-third Annual Report of the Glynn County Board of Health which contains 72 pages and chart which show the extensive work of the Commissioner and Board. Subjects tabulated are: Vital Statistics, Communicable Diseases, Statistical Report of Public Health Nursing, Non-Communicable Diseases, Maternity Services, Infant and Preschool Care, Health Inspection and Medical Examination of School Children, Venereal Diseases, Sanitation, Laboratory, Public Health Education, Medical Care as a Public Health Service, Public Health Field Training School, and International Classification of Deaths.

THE CATOOSA-DADE-WALKER COUNTIES MEDICAL SOCIETY met at the offices of the Walker County Commissioner of Health, LaFayette, March 7th. The President, Dr. D. W. Hammond, LaFayette, presided. Dr. H. P. Larimore, Chattanooga, Tenn., extended an official invitation from the Chattanooga and Hamilton County Medical Society to the members to enroll in a postgraduate obstetrical course being sponsored by the Tennessee State Medical Association. Dr. John R. Martin, Chattanooga, Tenn., spoke on the *Diagnosis and Treatment of Pathologic Vaginal Bleeding*; the discussion was led by Dr. Chas. W. Stephenson, Ringgold, and Dr. S. B. Kitchens, LaFayette. The April meeting will be held in Dr. Fred H. Simonton's office at Chickamauga.

THE SECOND DISTRICT MEDICAL SOCIETY met at Thomasville on April 8th. The scientific program consisted of, *Address* by Dr. Stewart R. Roberts, Atlanta; *Congenital Syphilis*, Dr. I. M. Lucas, Albany; discussed by Dr. J. R. McMichael, Quitman. *Address* by Dr. J. W. Schereschewsky, Atlanta, acting director of Cancer Control of the State Department of Public Health. *Fracture of the Hip*, Dr. Chas. H. Watt, Thomasville; discussion by Dr. Arthur D. Little, Thomasville. *Practical Uses of X-Ray Therapy*, Dr. J. J. Collins, Thomasville. *Address*, Dr. Grady N. Coker, Canton, president-elect of the Medical Association of Georgia.

THE SEVENTH DISTRICT MEDICAL SOCIETY held its semi-annual meeting at Cartersville on April 6th and celebrated its thirteenth anniversary. The program consisted of: *Anniversary Address* by Dr. Ross P. Cox, Rome; *Arthritis*, Dr. M. Van Teem, Marietta, discussed by Dr. Lester Harbin, Rome; *State Medicine*, Dr. M. M. McCord, Rome, discussed by Dr. C. V. Wood, Cedartown; *Address*, Dr. Grady N. Coker, Canton, President-Elect, Medical Association of Georgia; *Clinical Manifestations of Diseases of the Lungs*, Dr. C. C. Aven, Atlanta, discussed by Dr. B. V. Elmore, and Dr. W. H. Lewis, both of Rome; *Differential Diagnosis of Thyroid and Indications for Medical,*

X-Ray and Operative Treatment, Dr. M. M. Hagood, Marietta, discussed by Dr. Robert M. Harbin, Jr., Rome, and Dr. Marvin Mitchell, Atlanta.

THE FIFTH DISTRICT MEDICAL SOCIETY met at the Academy of Medicine, Atlanta, March 31st. The program consisted of *Address of Welcome* by Dr. C. C. Aven, Atlanta, President, Fulton County Medical Society; *Surgical Treatment of Hypertension*, Dr. Dean H. Echols, New Orleans, La.; discussed by Dr. Edgar F. Fincher, Atlanta; *Exploitation*, Dr. Geo. A. Traylor, Augusta; President, Medical Association of Georgia; *Recent Advances in the Serology of Syphilis with Special Reference to the Application of the Kline Finger Blood Test in Routine Practice*, Dr. Chas. R. Rein, New York City, discussed by Dr. Roy R. Kracke, Emory University; *Surgical Treatment of Chronic Empyema*, Dr. B. N. Carter, Cincinnati, Ohio, discussed by Dr. Daniel C. Elkin, Atlanta.

THE MACON MEDICAL SOCIETY of Bibb County met at Ridley Hall on April 5th. Dr. O. R. Thompson read a paper entitled *Human Sterility—Illustrated with Motion pictures*.

COUNTIES REPORTING FOR 1938

Monroe County Medical Society

The Monroe County Medical Society announces the following officers for 1938:

President—W. J. Smith, Juliette.

Secretary-Treasurer—G. H. Alexander, Forsyth.

Elbert County Medical Society

The Elbert County Medical Society announces the following officers for 1938:

President—A. C. Smith, Elberton.

Vice-President—D. N. Thompson, Elberton.

Secretary-Treasurer—A. S. Johnson, Elberton.

Delegate—J. E. Johnson, Jr., Elberton.

Alternate Delegate—W. A. Johnson, Elberton.

Censors—J. E. Johnson, D. N. Thompson and F. A. Smith.

Blue Ridge Medical Society

The Blue Ridge Medical Society announces the following officers for 1938:

President—J. M. Daves, Blue Ridge.

Vice-President—E. L. Prince, Morganton.

Secretary-Treasurer—C. B. Crawford, Blue Ridge.

Delegate—E. W. Watkins, Ellijay.

Censors—J. S. Tankersley, E. W. Watkins and A. W. Duckett.

Dooly County Medical Society

The Dooly County Medical Society announces the following officers for 1938:

President—V. L. Harris, Pinehurst.

Secretary-Treasurer—M. L. Malloy, Vienna.

Delegate—L. H. Bishop, Unadilla.

Alternate Delegate—E. B. Davis, Byromville.

Grady County Medical Society

The Grady County Medical Society announces the following officers for 1938:

President—A. B. Reynolds, Cairo.

Secretary-Treasurer—J. V. Rogers, Cairo.

Crisp County Medical Society

The Crisp County Medical Society announces the following officers for 1938:

President—A. J. Wheelchel, Cordele.

Vice-President—Charlie Adams, Cordele.

Secretary-Treasurer—L. O. Wooten, Cordele.

Delegate—L. O. Wooten, Cordele.

Alternate Delegate—M. R. Smith, Cordele.

Censors—C. E. McArthur, M. R. Smith and L. E. Williams.

Telfair County Medical Society

The Telfair County Medical Society announces the following officers for 1938:

President—S. T. Parkerson, McRae.

Vice-President—Frank Mann, McRae.

Secretary-Treasurer—Foster P. Harbin, Lumber City.

Delegate—S. T. Parkerson, McRae.

Alternate Delegate—W. L. Sheppard, McRae.

Rabun County Medical Society

The Rabun County Medical Society announces the following officers for 1938:

President—J. C. Dover, Clayton.

Secretary-Treasurer—J. A. Green, Clayton.

Delegate—J. C. Dover, Clayton.

Wilcox County Medical Society

The Wilcox County Medical Society announces the following officers for 1938:

President—Homer A. Dorsey, Pitts.

Vice-President—J. M. C. McAllister, Rochelle.

Secretary-Treasurer—J. D. Owens, Rochelle.

Delegate—S. B. Ellis, Pitts.

Alternate Delegate—J. D. Owens, Rochelle.

Hancock County Medical Society

The Hancock County Medical Society announces the following officers for 1938:

President—Horace Darden, Sparta.

Secretary-Treasurer—H. L. Earl, Clayton.

Delegate—Horace Darden, Sparta.

Ware County Medical Society

The Ware County Medical Society announces the following officers for 1938:

President—H. A. Seaman, Waycross.

Vice-President—L. W. Pierce, Waycross.

Secretary-Treasurer—Kenneth McCullough, Waycross.

Delegate—W. F. Reavis, Waycross.

Alternate Delegate—W. C. Hafford, Waycross.

Lamar County Medical Society

The Lamar County Medical Society announces the following officers for 1938:

President—D. W. Pritchett, Barnesville.

Vice-President—J. A. Corry, Barnesville.

Secretary-Treasurer—S. B. Traylor, Barnesville.

Delegate—J. H. Jackson, Barnesville.

Mitchell County Medical Society

The Mitchell County Medical Society announces the following officers for 1938:

President—D. P. Belcher, Pelham.

Vice-President—M. W. Williams, Camilla.

Secretary-Treasurer—M. M. Burns, Pelham.

Delegate—J. C. Brim, Pelham.

Decatur-Seminole Counties Medical Society

The Decatur-Seminole Counties Medical Society announces the following officers for 1938:

President—Carl B. Welch, Attapulgus.
Vice-President—H. B. Jenkins, Donalsonville.
Secretary-Treasurer—M. A. Ehrlich, Bainbridge.
Delegate—R. F. Wheat, Bainbridge.

Ben Hill County Medical Society

The Ben Hill County Medical Society announces the following officers for 1938:

President—W. P. Coffee, Fitzgerald.
Vice-President—W. D. Wilcox, Fitzgerald.
Secretary-Treasurer—L. S. Osborne, Fitzgerald.
Delegate—J. E. Smith, Fitzgerald.
Alternate Delegate—W. D. Wilcox, Fitzgerald.
Censors—W. P. Coffee, J. E. McMillan and R. M. Ware.

Wayne County Medical Society

The Wayne County Medical Society announces the following officers for 1938:

President—T. G. Ritch, Jesup.
Secretary-Treasurer—A. J. Gordon, Jesup.
Delegate—J. A. Leaphart, Jesup.
Alternate Delegate—T. G. Ritch, Jesup.

Franklin County Medical Society

The Franklin County Medical Society announces the following officers for 1938:

President—Stewart D. Brown, Royston.
Secretary-Treasurer—B. T. Smith, Carnesville.
Delegate—Stewart D. Brown, Royston.
Alternate Delegate—R. E. Ridgway, Royston.

Bartow County Medical Society

The Bartow County Medical Society announces the following officers for 1938:

President—R. E. Adair, Cartersville.
Vice-President—A. L. Horton, Cartersville.
Secretary-Treasurer—J. W. Stanford, Cartersville.
Delegate—J. W. Stanford, Cartersville.
Alternate Delegate—T. Lowry, Cartersville.

Habersham County Medical Society

The Habersham County Medical Society announces the following officers for 1938:

President—D. T. Rankin, Alto.
Vice-President—C. T. Hardman, Tallulah Falls.
Secretary-Treasurer—B. J. Roberts, Cornelia.
Delegate—W. H. Garrison, Clarksville.
Alternate Delegate—B. J. Roberts, Cornelia.

Coffee County Medical Society

The Coffee County Medical Society announces the following officers for 1938:

President—Sage Harper, Ambrose.
Vice-President—I. W. Moorman, Douglas.
Secretary-Treasurer—H. J. Goodwin, Douglas.
Delegate—J. W. Wallace, Douglas.
Alternate Delegate—T. H. Clark, Douglas.

Bulloch-Candler-Evans Counties Medical Society

The Bulloch-Candler-Evans Counties Medical Society announces the following officers for 1938:

President—B. B. Jones, Metter.
Secretary-Treasurer—W. E. Simmons, Metter.

Delegate—A. J. Mooney, Statesboro.

Alternate Delegate—B. A. Deal, Statesboro.

OBITUARY

Dr. William Wimberly, Fort Gaines; member; Kentucky School of Medicine, Louisville, Ky., 1889; aged 76; died at his home on March 1, 1938. He was born and reared in Stewart county. Dr. Wimberly began the practice of medicine at Dawson, then after a few years moved to Fort Gaines where he practiced for more than forty years. He was an affable, kind hearted gentleman and one of the State's best citizens. Dr. Wimberly was a member of the Randolph County Medical Society, member and elder of the Presbyterian church. Surviving him are his widow, one daughter, Mrs. George Wilson, Columbus, Ohio; one son, Dr. Robert W. Wimberly, United States Navy. Rev. E. B. Brooks conducted the funeral services from the home. Burial was in the city cemetery.

Dr. James Robert Dykes, Marshallville; member; University of Virginia Department of Medicine, Charlottesville, Va., 1897; aged 65; died at his home of heart disease on February 20, 1938. He served as Lieutenant Commander in the United States Navy until retired from active duty, then served as Grady county health officer, later as Thomas county health officer; thence he removed to Marshallville where he lived in retirement for several months. He was a kind hearted congenial likeable gentleman. Dr. Dykes was at one time Naval aide to former President Theodore Roosevelt. He had many friends. The funeral and interment were in Marshallville.

George Washington Sherrer, Rayle; member; University of Georgia School of Medicine, Augusta, 1876; aged 91; died at a private hospital in Washington, Ga., on February 26, 1938. He served in the Civil War. After he graduated in medicine, he continued to practice until his last illness. Dr. Sherrer had many friends to whom he was devoted and always loyal to every trust. He was an amiable and trustworthy citizen. Funeral services were held at Sardis Baptist church. Dr. J. D. Mell, Athens. Rev. G. C. Steed, Crawfordville, and Rev. J. D. Matheson officiated. Members of the Wilkes County Medical Society were honorary pallbearers.

Dr. Robert P. Adams, Hapeville; member; University of Georgia School of Medicine, Augusta, 1904; aged 60; died at his home after a long illness on March 14, 1938. He was born and reared in Walton county and practiced medicine in Walton and adjoining counties for thirty-three years, until he retired two years ago. Dr. Adams limited his practice to obstetrics. He was a member of the Jackson-Barrow Counties Medical Society, Odd Fellows, past master of the Carter Hill Masonic lodge and member of the Rockwell Universalist church. Surviving him are his widow; his mother, Mrs. Jno. Adams, Monroe; three sons, John and Robert Adams, Atlanta, and James D. Adams, Winder. Rev. J. M. Rosnack and Rev. Ed A. Caldwell officiated at the funeral services conducted from the

Bethlehem Methodist church. Burial was in the churchyard.

Dr. John Angus Garrard, Roberta; member; Birmingham Medical College, Birmingham, Ala., 1913; 59; died at his home on March 15, 1938 after a long illness. He served as an intern in the Hillman Hospital, Birmingham, Ala., then began practice at Graceville, Florida; then after a few years removed to Roberta where he practiced until illness forced him to retire about two years ago. Dr. Garrard was a successful practitioner and had many warm personal friends. Surviving him are his widow, one daughter, Miss Jocque-lyn Garrard, and one son, Lawrence Garrard, all of Roberta. Rev. W. L. Anderson officiated at the funeral rites which were conducted at the Methodist church. Burial was in the Roberta cemetery.

Dr. Walter P. Deakins, Wildwood; University of Tennessee College of Medicine, Nashville, Tenn., 1893; aged 71; died after a short illness at his home on February 28, 1938. He was a prominent citizen of Dade county and an outstanding physician. Dr. Deakins retired from active practice a number of years ago. He was a member of the Methodist church. Surviving him are his widow and one foster-son, Charles Auburn Griffith. Funeral services were conducted from the home. Burial was in the village cemetery.

Dr. Jesse Edgar Wright, Macon; member; Vanderbilt University School of Medicine, Nashville, Tenn., 1899; aged 65; died at his home, 324 College Street, after a few weeks illness, on March 21, 1938. He was born in Columbia county, Florida. Dr. Wright received his early literary education at Gordon Institute in Barnesville. After he graduated in medicine and served as an intern, he began practice in Macon in 1903 and continued until he retired about ten years ago. Dr. Wright had many friends and was a good citizen. He was a member of the Macon Medical Society of Bibb County, American Medical Association and the First Presbyterian church. Surviving him are his widow, one son, Allen Wright, Atlanta; three daughters, Mrs. R. B. Melun, Baton Rouge, La.; Miss Jessie Wright, Macon; and Miss Sara Wright, student at St. Mary's School, Raleigh, N. C.

Dr. Howard E. Ezell, Oliver; Atlanta College of Physicians and Surgeons, Atlanta, 1902; aged 60; died at his home after a long illness on March 15, 1938. He began practice in Oliver and continued there until ill health forced him to retire. During his career as a practitioner, he practiced in Screven, Bulloch and Effingham counties. He was liberal in his efforts to secure improvements for his community and engaged in farming as a side-line. Dr. Ezell enjoyed the confidence of his acquaintances, was a member of the Masonic lodge, member and deacon in the Little Ogeechee Baptist church. Surviving him are his widow, two brothers, two sisters, a number of nieces and nephews. Funeral services were held at the home. Rev. J. W. Carwell officiated. Burial was in the family cemetery at Monticello.

Dr. William Marion Powell, Atlanta; Emory University School of Medicine, Emory University, 1883; aged 79; died in a private hospital in Charlotte, N. C., on March 29, 1938, after an illness of several weeks. He recently went to Charlotte to visit his daughter, Mrs. John Grice. Dr. Powell was born in Tallassee, Alabama. He began practice in Atlanta after receiving his degree in medicine and practiced here for fifty years. Surviving him are two daughters, Mrs. John Grice, Charlotte, N. C., and Mrs. W. S. Ward, Atlanta; one son, Charles E. Powell, Greenville, Miss. Dr. Robert Ivey officiated at the funeral services conducted at Spring Hill chapel. Burial was in Oakland cemetery.

Dr. William V. Russell, Dalton; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1909; aged 68; died at a local hospital on March 10, 1938. He was a native of Ellijay, had practiced in Carbondale, then removed to Dalton thirteen years ago where he practiced until he retired. Dr. Russell had many friends and was a good citizen. Surviving him are his widow, three daughters, Mrs. Bernice Clark, Los Angeles, Cal.; Mrs. Esther Nation and Miss Robbie Lee Russell, both of Dalton; three sons, Morris Russell, Acworth; James Russell and W. V. Russell, Jr., both of Dalton. Funeral services were held at the Church of God. Rev. C. T. Pratt officiated. Burial was in Westhill cemetery.

Dr. John J. Farmer, Rome; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1909; aged 76; died at his residence on March 22, 1938. He was born in Cherokee county and began practice in Tunnel Hill. About thirty years ago he moved to Rome and practiced there until he retired on account of failing health about one year ago. Surviving him are his widow, four daughters, Mrs. Dewey Wollstein, Misses Ruth and Gertrude Farmer, all of Rome, and Mrs. Tom Lerch, Chattanooga, Tenn.; four sons, John and Troy Farmer, Rome; Dr. C. H. Farmer, Guntersville, Ala., and Ben Farmer, Wilson, N. C. Rites were held at the Jennings Funeral Home.

DR. HIGGERSON MATHERSON SALE 1871-1938

On February 1, 1938, at his late home in Washington, Georgia, Dr. H. M. Sale passed from this life to the life beyond.

Graduating in 1900 from the Medical Department of the University of Georgia, he practiced his profession in Wilkes and surrounding counties, retiring only a few months before his death.

Dr. Sale was courteous, kind and generous and will be greatly missed by many to whom he ministered.

Whereas, Providence has seen fit to remove from us a friend and brother physician who was a charter member and active in the Wilkes County Medical Society for thirty-two years.

Therefore be it Resolved, by the Wilkes County Medical Society that:

1. We submit with a degree of sadness to this dispensation of Providence.

2. That, in the passing of Dr. Sale, Wilkes County has lost a valuable and upright citizen, the medical profession a conscientious doctor, the Wilkes County Medical Society a faithful member and his family a devoted husband and father.

3. That these resolutions be inscribed on a page in the Medical Society minute book, published in the Journal of the Medical Association of Georgia and the local newspaper.

4. That a copy of these resolutions be sent to his family.

H. T. HARRISS, M.D.
A. W. SIMPSON, M.D.
Committee.

DOCTOR HARRIS M. BRANHAM
Brunswick

Dr. H. M. Branham, prominent physician of Brunswick, on Tuesday, March 15th, completed his fiftieth year in the practice of medicine and except for one year following his graduation from college his entire life's work in the interest of his profession has been in Brunswick. In celebration of the rare event, Dr. J. W. Simmons, another prominent Brunswick physician and Mrs. Simmons were hosts at a dinner party at their home on Union Street, entertained Dr. Branham and members of the Glynn County Medical Society.

The celebration was a pleasant surprise to Dr. Branham who on arrival at the Simmons' home was greeted by the other doctors of Brunswick. Dr. Simmons acted as toastmaster, presented to Dr. Branham a beautiful modern lounging chair, a gift from the medical men by whom he is held in high esteem and admiration.

A native of Fort Valley, Ga., Dr. Branham came to Brunswick in 1889 and has since been a valuable and beloved resident of the city. He was graduated with highest honors from the College of Physicians and Surgeons in Baltimore, Md., and for one year following his graduation practiced his profession in the City Hospital in Baltimore. In 1889 Dr. Branham came to Brunswick on a visit to friends and so impressed was he with the little city at that time that he immediately decided to establish his home here and at once began the practice of medicine in Brunswick.

During all the years since his graduation, no physician has made as high an average in the studies as did Dr. Branham, so the college officials have often informed him. He has throughout the years kept up with his studies and as new methods were put into practice, Dr. Branham was always one of the first medical men in the community to acquire them. He was the first physician to pronounce the dreaded disease, yellow fever, in the epidemic in the early nineties and it was through his careful administering to sufferers that as few deaths as were, resulted from the disease.

Dr. Branham throughout all of his years residence and practice of medicine in Brunswick has frequently been honored and has held many responsible positions. He has served many terms as city physician of Brunswick and United States surgeon in charge of the local quarantine station, as head of the local medical society

and has occupied many other positions of honor and trust.

MRS. BERTHA A. STEVENSON, *Reporter,*
The Brunswick (Ga.) News.

COMMUNICATION
MEDICAL CARE FOR FARM SECURITY
ADMINISTRATION CLIENTS

Dr. C. W. Strickler, Chairman.
Committee on Medical Economics.
123 Forrest Avenue, N. E.,
Atlanta, Georgia.
Dear Dr. Strickler:

Thank you very much for your wire of March 10th, advising me that we may now proceed with the development of our medical care plan in Georgia. Your promptness in informing me of the action of the Executive Council is greatly appreciated.

Your committee has been most helpful and cooperative in assisting us in the working out of a method of approaching our problem in Georgia. Please believe me when I assure you that we genuinely appreciate your splendid attitude.

My plans are to go to Alabama for one week beginning March 28. The following week I expect to spend in Georgia approaching county medical societies.

I think it would be helpful if the secretary of the Georgia State Medical Association forwarded a copy of the plan to each of the county medical societies, together with a letter stating that your committee and the Council approve this plan. It might also be well to add that several of the counties will be approached by representatives of the Farm Security Administration within the near future regarding this plan.

Sincerely yours,

R. C. WILLIAMS, *Medical Director*
U. S. Farm Security Administration

N. B. County medical societies might agree on some working plan so when called upon by the Medical Director of the United States Farm Security Administrator, there would be little delay in obtaining satisfactory agreements.

MEETING OF THOMAS COUNTY
MEDICAL SOCIETY

The Thomas County Medical Society met at the Archbold Memorial Hospital, Thomasville, 4:00 P. M., March 16, 1938. President, Dr. Roy A. Hill, presided. The minutes of the previous meeting were read and approved.

Dr. B. A. Wilkinson of Tallahassee, Florida, read a paper on *Pneumonia During Childhood*. This paper dealt with the various types of pneumonia and its early recognition. It was discussed by Drs. Erickson, Little, Moore and Galin.

Dr. C. H. Ferguson gave a very instructive talk on *Serum Therapy in Pneumonia* in addition to other practical measures in its treatment. The house then had a general discussion on the papers of Drs. Wilkinson and Ferguson.

Dinner was served at the hospital.

The next meeting is to be held the third Wednesday in June, 1938.

RUDOLPH BELL, M.D., *Secretary*
Thomasville.

MAY DAY—CHILD HEALTH DAY 1938

Sunday, May 1

Supplementary Observance April 30 and May 2

Suggestions for Observance

Child Health Day activities are sponsored by the Children's Bureau at the request of the State and Provincial Health Authorities of North America in accordance with the Congressional Resolution of May 18, 1928, which authorized the President to proclaim May Day as Child Health Day.

Slogan: Speed children on the road to health.

Objective: Every community to make full use of its resources in order to insure to children safe birth, normal growth, and protection against disease and accident in their progress from infancy to maturity.

Leadership: State May Day chairmen appointed by State health officers arrange for the cooperation of State and local public agencies and private organizations in planning May Day activities that will contribute to year-round child-health activities. State departments of education cooperate in planning school Child Health Day programs.

Program: For community groups—(1) Review of local child-health activities; (2) planning for the extension and improvement of child-health programs; and (3) presentation of special child-health needs requiring the attention of parents and others in the community.

By children—exhibits, demonstrations, programs, plays, games, and festivals, illustrating the health needs of children, healthful activities, and progress made during the year in their knowledge concerning the protection of their own health and of the health of the community.

For the general public—news stories, radio talks, speeches, posters, exhibits.

For information on State programs write to State May Day Chairman, State Department of Health, Atlanta, or to Children's Bureau, U. S. Department of Labor, Washington, D. C.

INTEREST IN PHYSICIANS' TOUR OF AMERICA BY DELUXE SPECIAL TRAINS ENROUTE TO THE A.M.A. CONVENTION IN SAN FRANCISCO

According to latest reports reaching us, physicians and their families are evincing a very keen interest in the arrangements made by the American Express Travel Service with the cooperation of your society to see America enroute to and returning from the San Francisco Convention. This early interest indicates the assured success of this important Convention.

The "See America" movement by DeLuxe Special Trains is endorsed by approximately twenty-five State Medical Societies. It presents an unprecedented opportunity for our members and their families to join with their colleagues from other States, and enjoy the facili-

ties and service of DeLuxe Special Trains, and at the same time visit the many scenic attractions of our western States.

Many physicians, completely immersed in their practices, have hesitated to take such an extended vacation heretofore but now the fact of the A.M.A. Convention and the attractiveness and economical features of this travel program has brought such a trip within the realm of desirable possibilities.

Picture the beauty and relaxation of such scenes as the Indian Detour in New Mexico, the Grand Canyon of Arizona, Los Angeles and the beauties of southern California, Santa Catalina Island, the famous Columbia River Highway in Oregon, Seattle, Washington, Victoria, Vancouver, Lake Louise and Banff in the Canadian Rockies, Yellowstone National Park, Colorado Springs and many others.

The all-inclusive price is unusually low because of the cooperation of so many important medical societies. It is, therefore, recommended that our members avail themselves of this most attractive and unusual program which may not again present itself for some time. An attractive folder, describing these travel arrangements, may be obtained through the Secretary's office or the Transportation Agents, The American Express Travel Service, 82 Broad Street, N. W., Atlanta, Georgia.

"BENZEDRINE SULFATE" AS A MENTAL STIMULANT

Gwynn and Yater (Med. Ann. D. C. 6:356, Dec., 1937) report on the effects of "Benzedrine Sulfate" (benzyl methyl carbinamine sulfate, S.K.F.) administered to a group of 147 normal medical students.

Half the group received 10 mg. of "Benzedrine Sulfate" after breakfast and again after lunch for 3 successive days, the other half receiving lactose. Five days later the procedure was reversed, so that the entire group was tried both on "Benzedrine Sulfate" and on placebo.

One hundred and thirteen, or 77 per cent, experienced a temporary increase in energy while on "Benzedrine Sulfate"; 72, or 49 per cent, reported temporary exhilaration; and 61, or 41 per cent, found that "Benzedrine Sulfate" increased their power of mental concentration, while only 8, or 5 per cent, thought that their power of concentration was decreased. The entire group of 147 reported definite effects from "Benzedrine Sulfate," while only 16 reported imagined effects of the placebo.

With "Benzedrine Sulfate" unpleasant reactions were reported in varying percentages, but were not considered serious. They included insomnia, decreased appetite, rise in blood pressure, headache and nervousness.

There was no indication of the likelihood of habit formation. Only 38 students, or 25 per cent, expressed a desire to continue to use "Benzedrine Sulfate," and 80 per cent of these qualified this desire by limiting it to times when it would be necessary to stay awake.

The authors conclude that "Benzedrine Sulfate" may prove valuable to restore self-confidence, to combat mild depressions and to increase mental or physical

alertness. They point out, however, that it should be used only as an emergency measure and in small doses.

ITS QUICK ACTION PREVENTS DEFORMITIES

No antiricketic substance will completely straighten bones that have become grossly misshapen as the result of rickets. But Oleum Percomorphum can be depended upon to prevent ricketic deformities if given early and in adequate dosage. This is not true of all antiricketic agents, many of which are so limited by tolerance or bulk that they cannot be given in quantities sufficient to arrest the ricketic process promptly, with the result that the bones are not sufficiently calcified to bear weight or muscle-pull and hence become deformed.

"STONE WALLS DO NOT A PRISON MAKE NOR IRON BARS A CAGE"

Winter is a jailer who shuts us all in from the fullest vitamin D value of sunlight. The baby becomes virtually a prisoner, in several senses: First of all, meteorologic observations prove that winter sunshine in most sections of the country averages 10 to 50 per cent less than summer sunshine. Secondly, the quality of the available sunshine is inferior due to the shorter distance of the sun from the earth altering the angle of the sun's rays. Again, the hour of the day has an important bearing: At 8:30 A. M. there is an average loss of over 31 per cent, and at 3:30 P. M., over 21 per cent.

Furthermore, at this season, the mother is likely to bundle her baby to keep it warm, shutting out the sun from baby's skin; and in turning the carriage away from the wind, she may also turn the child's face away from the sun.

Moreover, as Dr. Alfred F. Hess has pointed out, "it has never been determined whether the skin of individuals varies in its content of ergosterol" (synthesized by the sun's rays into vitamin D) "or, again, whether this factor is equally distributed throughout the surface of the body."

While neither Mead's Oleum Percomorphum nor Mead's Cod Liver Oil Fortified With Percomorph Liver Oil constitutes a substitute for sunshine, they do offer an effective, controllable supplement especially important because the only natural foodstuff that contains appreciable quantities of vitamin D is egg-yolk. Unlike winter sunshine, the vitamin D value of Mead's antiricketic products does not vary from day to day or from hour to hour.

WANTED

Registered medical technologist desires position in hospital or doctor's office. Superintendent of 35 bed hospital two and one-half years. Young, energetic, good personality and references.

Address "C," care of THE JOURNAL



DR. BRAWNER'S SANITARIUM

SMYRNA, GEORGIA (Suburb of Atlanta)

FOR NERVOUS AND MENTAL DISORDERS, DRUG AND ALCOHOL ADDICTIONS

Approved diagnostic and therapeutic methods. Hydrotherapy, Electrotherapy, Massage, X-Ray and Laboratory. Special Department for General Invalids and Senile Cases at Monthly Rates.

JAMES N. BRAWNER, M.D. Medical Superintendent

ALBERT F. BRAWNER, M.D. Resident Superintendent

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OUR OBLIGATIONS AND RESPONSIBILITIES*

GEORGE A. TRAYLOR, M.D.

Augusta

Let me begin by acknowledging my sense of profound gratitude for the honor you have conferred upon me. My visits among you have revealed the sincerity and seriousness with which you go about your daily tasks, and the high esteem in which you are held by your fellow citizens. They have proved an inspiration to me.

Recently a rich banker left his two sons large legacies, but in his will he stated they would inherit far more than riches—obligations and responsibilities. Our choice of a vocation places on us all obligations and responsibilities and they are as multifarious as our social relations.

Present modes of thinking are not in accord with what most of us were taught nor with what most of us believe. Yet we must maintain a flexibility of mind, trying to combine what was for the good of all in the old with what is apparently beneficial in the new, adjusting our lives to what the majority may deem best, provided, as now obtains in our democracy with its tripartite government, the rights of minorities are duly protected, and reserving for our inmost thoughts the assurance that right and justice will ultimately prevail. We must think of ourselves as trustees who owe the community a definite debt. This may sound archaic, but there are certain definite obligations for those in our position, and we must reckon with our duty to the community. Let us speak frankly among ourselves, and be receptive to problems involving moral issues.

We are inclined to think that one's attainments in life are due solely to individual effort. No one will deny that success is in some degree due to the industry and perseverance of the man who succeeds. The successful man, however, usually gives too little credit to his forbears for transmitting to him those physical and mental attributes so necessary for success; nor is he likely to reason clearly enough to realize that society—the State—has a vested interest in his success: without the social order he would have lacked many advantages which, like health, are taken for granted. By the time the average man has reached maturity the commonwealth has a large stake in him; should he avail himself of the educational facilities at one of the state-supported professional schools the State's investment in such a lawyer, journalist, engineer, farmer, teacher or physician is much greater. For these advantages society has a right to expect the beneficiary to make some return. Most of us contribute something in taxes, which is as it should be, and is one way of liquidating our obligations for benefits received. However, the more one knows, the greater his responsibilities. We physicians are above the average in knowledge, so our obligations are greater, and we, therefore, have grave responsibilities to our fellow men. This attitude was assumed by those who eighty-nine years ago wrote the constitution and by-laws of this society. This Association was organized:

"To extend medical knowledge and advance medical science; to elevate the standard of medical education and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the material interests of its members and to protect them against imposition; and to enlighten and direct public opinion in regard to the great problems of state and medicine, so that the

*President's address before the Medical Association of Georgia, Augusta, April 28, 1938.

profession shall become more capable and honorable within itself, and more useful to the public, in the prevention and cure of disease, and in prolonging and adding comfort to life."

Noble aims, yes. All have been lived up to save that of concerted effort in enlightening and directing public opinion and this one is now on the road to achievement through the establishment of the Public Relations Bureau as a department of this Association. Abraham Lincoln said: "Public sentiment is everything. With public sentiment nothing can fail; without it nothing can succeed. Consequently he who molds public sentiment goes deeper than he who enacts statutes or pronounces decisions. He makes statutes and decisions possible or impossible to be executed." May I bespeak for this humanitarian and unselfish undertaking your wholehearted support? The National Health Program recently submitted by Miss Josephine Roche discloses the need of educating the public concerning health and illnesses. People must be taught to accept sound medical advice. It should be the especial pride of the medical profession of our State that the first proposal to elevate the standards of medical education in the United States was made in 1835 by the Faculty of the Medical College of Georgia (now the School of Medicine of the University of Georgia). We have striven diligently to live up to the aims cited, but what has each one of us done? We have visited the sick when called upon and paid our taxes, but public opinion demands that we do more to fulfill our obligations.

With the evolution of society in general, and medicine in particular, has come a general realization that the health of the people is of paramount importance, for a healthy people is of material advantage to everyone, the physician included.

It is our solemn duty to prove ourselves worthy of our heritage and we can do so in no better way than by recognizing our responsibility and demonstrating our ability to devise ways and means of providing not only medical attention but also hospital care for those who need such things and are unable to secure them for themselves. In order to perfect such plans it will be necessary for those of us in practice to realize our social responsi-

bilities; for our medical schools to instill in prospective physicians a like sense of responsibility and for the public to be enlightened as to what medicine has to offer—first, as to prevention, and second, as to treatment. The people are now genuinely interested and their sympathetic understanding of our problems will aid us to attain greater heights of usefulness. Our profession can no longer ignore the desire of the public to enjoy to the full the fruits of medical progress, nor, if we are to be honest, deny that this desire at the present time is unfulfilled. May we not pause to ask ourselves why we have been negligent?

Perhaps the ultra-socially-minded may have seized upon the economic debacle of the past eight years in order to further collectivist schemes; perhaps our profession has been more active in vociferously denouncing these groups than in realizing that we are dealing not with a theoretical problem but with a practical one.

I am opposed to state medicine as suggested by some of the extremists. Professor Sigerist is quoted in *Time Magazine* (Nov. 15, 1937) as follows: "Socialized medicine has demonstrated that socialism works in the medical field, and that it works well. It is a system that is full of promise for the future—for the very near future." Such a pronouncement from one of Professor Sigerist's intimate knowledge of medical history is most arresting. But the question might be asked, "Is Russia having socialized medicine?" Is it not simply medicine under dictatorship?

Dictatorship is now having its inning while democracies are non-resistant. Dictatorship in science is intolerable, and destructive to its very spirit. It is not a figment of the imagination that this freedom is in danger: several countries now have, in effect, control of the pronouncements of science. Gilson has said "There is a spiritual order of realities whose absolute right it is to judge even the State, and eventually to free us from oppression."

Within recent months the profession has begun to awaken and counter proposals are now being suggested. This is a good sign. Physicians are capable of suggesting the proper remedial measures. If organized medicine will formulate a plan that will meet the needs of the situation it will forestall govern-

ment control and meddling, which is abhorrent to most physicians who have given the matter serious thought.

It will not prove practicable or possible to make blanket suggestions applicable to the country as a whole. A plan that might work admirably in Maine would, in all probability, not be suitable for Georgia, and one satisfying the requirements of North Dakota would not meet the situation in Arizona. The members of each county and state medical society should study the conditions in their respective counties and states, and evolve a plan that will best solve their local problem.

Whatever plans are proposed, funds appropriated and control of services decreed, they should remain local insofar as possible. In some instances State aid, and in others Federal assistance, may be required—the latter in emergencies.

In Georgia it is the rural and small town dwellers most in need of assistance. These people can almost always obtain a physician's services but when confronted with a large hospital bill, which may absorb all their savings, their faith is broken, especially if their health has not been restored.

Our efficient Committee on Public Policy and Legislation has succeeded in having the special session of the Legislature approve a bill giving the electorate a chance to vote on a constitutional amendment allowing counties to levy taxes and appropriate funds to care for their indigent sick. This is a real achievement and we should be proud of it. However, our work has just begun, for we shall now have to instruct the public as to the necessity for such an amendment to our State constitution, and persuade them to vote for it. This is where our Public Relations Bureau and the Woman's Auxiliary can be of inestimable value.

It is my belief that when emotional thinking and excitement have subsided, workable plans can be formulated which will meet the needs of the various sections of our country; that "socialized medicine" can be obviated, and arrangements perfected whereby physicians may remain in control of whatever agencies are devised to render necessary medical aid to all who need it. It is our duty to give serious consideration to this question—

one which so vitally concerns our future, as well as that of the people generally.

Our section of the country has great natural advantages both of soil and climate. It is good to view the wonderful abundance with which nature blesses us. Seventy-three years have passed since the ending of a conflict from which our fathers were left prostrate, and there followed a "tragic era" even worse. Since 1874 our people have struggled to overcome a destruction that would have daunted many. Let us be thankful that the disagreeable memories are being forgotten, and that we are again emerging both intellectually and materially. Before that internecine struggle there were men of vision in our Southland, and men in our profession stood in the forefront of scientific and cultural advancement. I need only recall the names Noble Wymberly Jones, Daniel, McDowell, Long, Sims, Antony, Arnold, Dugas, Campbell, Calhoun and the Westmorelands. I believe in our State, and it is my conviction the future holds more in store for it, both materially and intellectually than for any other part of our country.

When the intellectual and health levels of the people of Georgia are markedly improved then, and not until then, can we hope to occupy the place nature holds for us. The burning question of the day is social and economic security. I do not believe either purchasable with money but "they are obtainable by right living as we relate ourselves one to another." (Skaggs, Chas. E.)

Dorothy Thompson has written: "We need to cultivate among ourselves wisdom, co-operation, realism and courage—we will need them all." These words are particularly applicable to our profession. Let us say to the people, "You do not have to draft us, we have already volunteered." And let us prove ourselves capable both of making and of executing the necessary plans.

Today's allotments of Federal funds to Georgia are for the months of May and June; \$346,500.00 goes to the State for old-age assistance; \$13,860.00 for aid to the blind; and \$77,333.33 for aid to dependent children. May estimates indicate that the State is aiding about 31,999 needy old people; 1,100 of the blind and 11,300 dependent children.

SOCIAL SECURITY BOARD
Washington, D. C.

SYMPOSIUM ON SOCIALIZED MEDICINE

STATE MEDICINE*

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Hoschton

I have been requested to prepare and deliver a paper on this subject at this time, because it seems not unlikely that a contest over the subject of socialized medicine may be in store for us in the not distant future. When men of national reputation, like Senator J. Hamilton Lewis, of Illinois, and several hundred prominent physicians of New York City come out in favor of some form of socialized medicine, and when the President of the United States appoints a special committee, headed by the Assistant Secretary of the Treasury, and containing representatives of nearly every department of government to study this problem and report on the feasibility and cost of same, and when that committee makes a favorable report, as it did a few days ago, it is time for physicians, if they do not want this thing, to wake up and get busy. Do not overlook the fact that many forms of governmental activities, which a few years ago seemed chimerical, are now in full operation. The whole world has moved very fast during the last twenty years, and there is a state of unrest in all the nations of the earth today. Unless we are willing to forego our cherished ideals of medical ethics, and our American principles of personal liberty and freedom of action in rendering and receiving medical service, we must prepare to meet and checkmate this propaganda that is being carried on in advocacy of socialized medicine.

Let us first get a clear understanding of the meaning of the term "state medicine." By those who advocate it the term is defined as "A system of complete medical service made available to all citizens at public expense." The words "complete medical service" include dentistry and all branches of medical practice. While the custom of having the state afford medical service to certain classes of people is not new, the proposal to give *COMPLETE* medical service to *ALL* the people is an innovation in this country. Ever since men

have been in the world they have needed medical service, and as long as people are born into the world and live and die here they will need medical service. Since the dawn of history there have been some form and some degree of state assistance to the sick. The temple of Saturn is said to represent the beginning of hospitals. There is abundant proof that in early India, in Egypt and in Babylonia there evolved bodies of lay-physicians who were in excellent standing in their respective communities, who were protected by law and maintained at public expense. Among the Jews religion, the state, and medicine were all combined, and Moses, the Jewish leader, influenced doubtless by his many years in Egypt, in creating his ideal state, placed the supervision of public health in the hands of the priests, who also acted as sanitary inspectors. In the third century B. C., the famous Asoka, the first great Buddhist king, who ruled a vast empire with light and kindness, established hospitals for men and animals. The Romans, with their well-known genius for organization, did not neglect public health. They had district physicians, called *ar-chi-a-tra popularis*, who served the poor and acted as a board of health in combatting epidemics. These were the forerunners of our city and county physicians. The famous public baths at Rome were public health measures. The Romans also had hospitals for sick soldiers, and stalls for sick horses. The early Christian church was organized as much for the care of the sick and destitute as for religious worship. Jesus was the greatest of all humanitarians. The teachings and example of the church have exerted a tremendous influence in shaping the course in which medicine has developed. Before the advent of Christianity medicine had been subjected to the influences of the civilizations of India, Egypt, Assyrio-Babylonia, Jews, Greeks, Romans and Arabs. After the coming of Christ medicine became intimately associated with Christianity, and after the adoption of Christianity as the state religion by Constantine the Great, both medicine and religion had state approval and moral and financial support. From that time to the very present, Christianity and medicine have been hand-

*Read before the Ninth District Medical Society, Commerce, March 14, 1938.

maids, working together in all efforts for the relief of the sick, the poor and the destitute, and the outcasts. The *ORGANIZED* care of the sick was the direct outcome of the teachings of Jesus and His disciples. Throughout the intervening centuries the church has carried on this work. Witness today the orphanages, service institutions, and hospitals maintained by the various Christian denominations in every city in Christendom. Physicians have at all times cooperated with the churches in carrying on this noble work, in fact without the donated services of doctors this work would be impossible. Medical men today are doing their full share of this benevolent work. A careful estimate based on numerous studies—not guess work—places the value of services donated by physicians of the United States to the indigent during the last few years at *ONE MILLION DOLLARS A DAY*.

In addition to all the free service that is being rendered to the indigent classes by physicians, religious denominations, fraternal and other charitable organizations, the several *STATES* and the national government are supplying a large amount of medical service to certain classes of people. Our State of Georgia, for example, maintains and operates a large hospital at Milledgeville for the mentally ill, and another fine institution at Alto for those suffering from tuberculosis. The State supplies medical service for inmates of jails, almshouses and convict camps. The national government furnishes free medical service and hospitalization for its soldiers and sailors and ex-service men. Most cities furnish salaried physicians or hospitals or both to give medical service to the indigent. Many municipalities also maintain hospitals for contagious diseases for the poor and to protect public health.

Our State Legislature recently made available \$50,000.00 to be used in the treatment of indigent cancer cases. Our State Medical Association asked for this appropriation, and much credit for the success of this movement is due our good friend, Dr. J. L. Campbell, of Atlanta. It was wholly and entirely a doctor's movement just like all other medical and health laws on our statute books. However, some doctors fear that this appropriation was not needed and that its administra-

tion may prove to be a source of some friction and trouble. However, I am satisfied that if any dissatisfaction occurs regarding the manner in which this money is spent that the matter can and will be easily adjusted. The administration of this fund was wisely placed in the hands of the State Board of Health. This board has adopted a wise rule which requires all applicants for aid from this fund to be certified by their home physician and the welfare department of the county in which they live. This arrangement assures that no other than indigent patients will be accepted for treatment.

All of the above mentioned plans and activities, carried on by government, state, church, and various organizations for the purpose of supplying medical service to the poor, the destitute, and the helpless, are heartily endorsed and liberally assisted by the medical profession.

But when it is proposed to extend free medical service to *ALL* the people, rich and poor, *ALL* the time, to support such service by taxation, and to place the medical profession under the control of government officials—politically-minded laymen—that is a horse of another color and the profession calls a halt.

However, I believe that the bill passed by the last Legislature providing for a constitutional amendment, which if approved, will allow county fiscal authorities to use public funds (tax money) for paying for medical services to the indigent citizen, should be adopted. As I understand the law as it stands in Georgia at the present time county authorities can use public funds to pay medical services only for inmates of almshouses, and prisoners. During the last several years, due to the depression, more people than formerly have become so impoverished as to be unable to pay for medical service. This has thrown a heavy burden on the medical profession, and in many localities the doctors are unable to take care of the situation. No doctor objects to doing a reasonable amount of charity practice, but whenever he becomes physically and mentally exhausted, and hampered with financial embarrassment, from such excessive burdens, it seems only fair and proper that the state or county authorities step in and help bear the burden. This condition has con-

tributed to the propaganda for state medicine.

The President's committee, already referred to, claims that 50 per cent of the population of the United States are unable to pay for necessary medical service. I do not believe that statement. But the medical profession cannot be indifferent to the needs of the people, or to its own vital interest, nor to the time-honored traditions of its own calling. "Nero fiddled while Rome burned." The profession cannot remain idle and indifferent while movements and propaganda calculated to abridge its liberty, retard its progress and impair its usefulness are being conducted. The problem of the medical profession has been well stated by Dr. Olin West, Secretary of the *American Medical Association*. He said: "The one great, outstanding problem before the medical profession today is that involved in the delivery of adequate scientific medical service to all the people, rich and poor, at a cost that can reasonably be met by them in their respective stations in life."

Over 200 different plans for medical service are being conducted, or proposed as experiments, by county medical societies in the United States. The Bureau of Medical Economics of the American Medical Association has investigated these plans, as well as some of the many forms of medical practice being carried on by insurance companies, industrial establishments, hospitals, health institutes, and so on ad infinitum. Many well-meaning people and a few outstanding physicians have come to the conclusion that the government should take over all medical practice and solve this vexing problem. State medicine, they claim, would solve the problem completely and finally.

But would it?

Many arguments offered in support of this scheme are plausible and ingenuous, and we cannot deny that some are weighty. I have not time now to go further into the reason given in advocacy of such plans. I must devote the balance of my time in stating some of the objections to the principles involved. We admit that state medicine might offer medical service to all who need it, and to some who need it and cannot get it. But several pertinent questions arise: What kind of serv-

ice would it be? What effect would it have on the medical profession? On business? On industry? On agriculture? On government budget balancing? Could the taxpayers, already groaning under the heavy burden of taxation, bear up under this additional burden, which would certainly be enormous. In any system of state medicine a whole lot of compulsory regulations are set up. These are hateful to a free people. In such a system everybody, sick or well, is *COMPELLED* to pay in taxes for medical service; he is *COMPELLED* to accept the physician offered, or else pay for a private physician, which obviously is not fair, because it makes him pay twice as much as he should for medical service. Under state medicine the physician is *COMPELLED* to serve the system, whether he likes to do so or not, because with free medical service offered to everybody by the state there would be little practice left for a private physician to get. With the possible exception of a few outstanding men, there would not be enough practice available to enable a private physician to make a living. Many would be forced to take up other lines of employment.

State medicine is wholly and entirely socialistic. It is basically a scheme to distribute the "economic burden" of sickness. To direct and administer such a system would require a huge administrative organization, with an army of directors, administrators, clerks and bookkeepers. This would add enormously to the cost of medical care. In this, state medicine violates a basic principle of sound economy. All cooperative movements in this and other countries, such as the Grange, Farmers Alliance, Fruit Growers, Cotton Co-ops and Co-op Creameries are based upon the principle of eliminating the "middle man"—the producer and consumer deal directly with each other. This is sound economic doctrine. But in any plan for state or socialized medicine a whole host of "middle men" are introduced, where there are none under the present system of private medicine—the doctor and patient deal directly with each other.

To operate such a system a large part of the physician's time would be consumed in filling out blanks, making reports. The time he should give to careful history taking, diag-

nosis, and careful administering to the sick, and in giving instructions to nurses and families of patients, would be consumed in doing endless clerical work. All this time-consuming red tape adds to the cost of medical care, and worries the doctor and detracts his mind from what should be his real work—the diagnosis and treatment of sicknesses. The patient suffers while the doctor is busy with clerical drudgery. A person who is compelled to pay taxes for state administered medicine naturally wants to “get something back” for his money. The result is that the introduction of every such system has been, and still is, followed by a most amazing increase in the amount of recorded trivial sicknesses for which medical service is demanded, and which costs the taxpaying citizen money. We have all seen this sort of thing among industrial workers and others who carry sickness insurance, or who make regular contributions from their pay rolls for sick benefits.

State medicine removes the essentials of a good diagnosis: careful and patient history taking and study and thoughtful attention to details. The administrator of such a department as state medicine, is compelled to watch the outgo of funds, and to practice economy, therefore emphasizing quantity rather than quality of medical service. This destroys the sympathetic relations which exist between physician and patient in private practice. The patient, knowing the doctor is getting his pay by month or year, regardless of the character of his service, is likely to suspect that the physician is not giving him the necessary attention, and the physician, on the other hand, suspects that the patient is demanding more attention than he would do if he had to pay for it himself. Suspicion on the part of both physician and patient is substituted for the mutual confidence which is the real basis for satisfactory and successful medical care.

The cost of state medicine would unquestionably be enormous, and those who pay the least taxes would receive by far the greater benefits. Is this right? Is it morally right to force by law the good citizen, the thrifty, self-denying, hard-working, honest, sober citizen bear the expense of medical care for the lazy, the thriftless, spendthrift, and criminal? Is it right to make the good citizen

pay for the sins of the bad? I contend that it is more in accordance with the principles of justice to let every tub stand on its own bottom. J. Edgar Hoover is authority for the statement that crime and criminals cost this country fifteen billions of dollars a year. The country is bearing a tremendous burden in the support of courts, jails, penitentiaries, police departments, almshouses, old age assistance, and many other activities mostly on account of criminals and ne'er-do-wells. Do we want to add enormously to this burden of the taxpayers by saddling on their backs the cost of free medical service for everybody? Do we? I think not!

A recent editorial in the Saturday Evening Post states that our local state and federal governments cost today in the neighborhood of \$17,000,000,000 a year. The nation's income is estimated at \$60,000,000,000 and the total cost of government to the American people is, therefore, about 28 per cent of their income. But we are actually collecting only 16 per cent of this and borrow 12 per cent to make up the difference. There is a definite relation, the editorial points out, between income and taxation. As long as national income rises faster than taxation, everything is fine and dandy. But when taxes rise at a rate faster than national income, the latter breaks down. The editorial in question called attention to the fact that all over the world the records show that when taxes for any three or five-year periods reach more than 20 per cent of national income there has developed a demand for repudiation of debts, revaluation of currency, or the outbreak of social disorder. Has not taxation in this country about reached the limit of safety? Now listen, the President's committee estimates the cost of state medicine at \$10,000,000,000 a year. Now add \$10,000,000,000 to \$17,000,000,000 and you have \$27,000,000,000 as the total cost of government, and which would be about 41 per cent of the national income. It seems to me that these authoritative figures show that state medicine is an impossibility. These figures are not my figures, but the figures of the Saturday Evening Post and the President's special committee.

But if the cost was within the bounds of reason, there are other grave objections to

state medicine. State medicine tends to discourage preventive medicine. A physician who is overburdened with the monotony of needless consultations, demands for certificates for benefits, filling out blanks, and in making out reports required by bureaucratic red tape, has little time or inclination to devote to preventive medicine, such as giving immunizing vaccines, making periodic health examinations, or teaching hygiene and sanitation to his people. In any system of state medicine the physician gets no pay for such work done upon his own initiative, and like other human beings, does only what he is required to do, and is paid for doing. He leaves the balance for George to do, and you know what George does. Our American system of immunization against typhoid and diphtheria, which has been developed by county medical societies and health departments, is said to be the envy of European countries having state medicine. No country in Europe having socialized medicine has secured as rapid reduction in morbidity and mortality as has been obtained in the United States under private medical practice. Directors of systems of state medicine in Europe provide for a type of graduate instruction, not for promoting improvement in scientific medical knowledge, but for the purpose of teaching doctors how to make reports, how to fill out blanks, how to detect malingering, and how to keep down the cost of drugs. In no country with socialized medicine has post-graduate study developed as highly as in the United States.

In any system of state medicine a huge administrative organization would become necessary requiring an army of employees in the various administrative capacities. This would inevitably tend to become a vast political machine. This would profoundly affect the quality of medical service. Doctors with the strongest political pull would get the best places regardless of qualifications. Politically-minded doctors would continually play politics, seeking better jobs for themselves and their relatives. Scientific medicine would be slaughtered, and its decapitated head delivered to political demagogues as pay for political service rendered. Not one system of socialized medicine in Europe has proved satisfactory to the people. The systems undergo frequent change. The German system is over

fifty years old, and look at Germany today, what do we see? We see the spectacle of a political dictatorship steadily eliminating Catholics, Jews, and all physicians of a different political belief from practice in the state system. Can we feel assured that the politicians in our own country would do any better? Dr. Morris Fishbein pertinently asked, "Why do not those who are so insistent upon the state furnishing free medicine to all citizens help banish quacks, and thus save the people \$150,000,000 spent yearly for such folly? Why do they not help control patent medicine, and save the people \$350,000,000 annually spent for worthless and often harmful nostrums? Instead experience has shown that charlatans prosper under state medicine, because the people, dissatisfied with the service given them by their state, seek out the quacks in search of that personal attention which the state system fails to supply."

As stated above, whenever state medicine is put in operation, there is necessarily put in operation also, as a part of the system, a number of *COMPULSORY* regulations repulsive and irksome to an independent people who have always been accustomed to say "This is a free country." Whenever the state pays for any kind of service it determines the kind of service it buys, from whom it buys, and the amount it buys. Who pays the piper calls the tune. The doctors are straight-jacketed, compelled to give their service on such terms as the officials prescribe and to conduct practice in accordance with such rules and regulations as those officials may promulgate. Everyone, whether sick or well, is compelled to pay for the service. The sick are compelled to accept such service as is made available by the state, whether he likes it or not. He has no choice. These compulsions and restrictions involve an invasion of the very foundations of successful medical practice. Medical service is not a commodity that can be weighed on scales or measured with a yardstick. Neither can it be purchased satisfactorily by a middle man at wholesale nor distributed to a mass of patients, since neither such middle man nor patients is able to judge the character or adequacy of such medical service. The treatment of sick people by mass methods is pure foolishness. Standardization of medi-

cal treatment and mass methods is an impossibility and cannot give satisfactory results in practice. This seems too obvious to need elaboration, yet many laymen, perhaps a majority, do not understand this, for if they did there would not be such a demand for patent medicines.

Experience has shown that wherever socialized medicine has been in operation there has resulted an increased morbidity, malingering, over-medication, widespread neurosis, and the destruction of the most valuable element in medical care—*THE WILL TO GET WELL*. Free medicine tends to debase the moral stamina, and that unfortunate class who have an inherited unstable nervous system are the worst victims of such demoralization.

And now in conclusion, I want to discuss briefly a phase of this problem which I believe lies at the very foundation of the trouble that the advocates of socialized medicine are attempting to remedy. When analyzed, this problem of medical care will be found to be only a part of a much wider problem. This larger problem is the problem of the distribution of wealth, the problem of larger incomes of the underprivileged—that a third of the population which our President says are “ill-housed, ill-clad, and ill-fed.” Poverty and ignorance are everywhere associated with vice and disease. Carelessness, destitution and filth breed crime and sickness and bring death. Frederick J. Haskin states that after an investigation extending over two years among 40,000,000 to 50,000,000 people that the death rate among this low income class was found to be double what it is among the rest of the population. There are two remedies: *education and training* is one; *economic adjustment* is the other. These people stand in need of food, raiment and shelter as badly as they need medical service, and the latter would be of little benefit without the former.

The late Huey Long, although he employed the methods of the demagogue, was nevertheless a genius and a matchless leader, and was striking at this trouble with his “share-the-wealth” campaign. At the time of his death Long was causing considerable worry among the beneficiaries of special

privileges—that class of men whom the late Theodore Roosevelt referred to as “the malefactors of predatory wealth.” And whether we agree with our present chief executive or not, whether we believe that all his New Deal remedies are the right ones or not (personally I do not endorse all of them), we must admit that he is at least attacking the problem. He is not sitting idly and allowing the country to drift into economic chaos, as it was doing when he took a seat behind the steering wheel. There are those who believe that all this clamor for socialized medicine is intended to distract attention from the real problem—the most important problem—facing the American people today, the problem of providing better opportunities and larger incomes for the underprivileged classes, among whom are millions of good but unfortunate people, including 1,800,000 tenant farmers here in our Southland, 60 per cent of whom are white men. If, and when, this is accomplished, these classes will be able to pay for medical service and state medicine will be forgotten.

I am old-fashioned, and doubtless some of you will disagree with me when I confess that I have never been able to sympathize very much with all the clamor against child labor. I have a crazy idea that it is better for a child in its 'teens, when not in school, to be employed in some useful work suited to its age, strength and intelligence, and in healthful surroundings, rather than to be turned loose to roam about town with the stray dogs, getting into bad company, and acquiring habits of indolence and vice. Just look at the appalling number of serious crimes committed today by youths in their 'teens and young men in their early twenties. Don't you believe that the manner in which these boys are brought up accounts in large measure for this widespread epidemic of crime by young people, not only by boys but girls as well? When I was a small boy, I and others of my age were taught to work (on the farm). I was told that “An idle brain is the devil's workshop,” and that “Satan finds some mischief still for idle hands to do.” I believe that our educational methods should be modified. More emphasis should be placed on building character, and training in habits

of diligence. The Berry School at Rome meets my ideas of what our schools should be. Henry Ford, at Savannah, is conducting experiments in education along the same lines, if I understand his plans. Our indigent classes will always remain poor until they are given opportunities to earn better wages, and until they become sufficiently skilled and efficient to deserve more. But no matter how much a man earns, he will always remain poor until he acquires habits of thrift, and diligence, and refrains from spending his money for liquor, old cars, gasoline, and squanders it in gambling, and in many other ways that hurt him rather than help him and his dependents. After a man has spent all his money foolishly and gets sick, or mangled in a car wreck, he wants the doctor or the state to give him free medical service. This is a many-sided question. But the remedy seems plain to me. It consists in training the young in proper habits and ideas of honor, thrift, diligence, and in some trade or vocation which will enable them to become self-supporting and not a charge on society.

Children should be taught self-reliance and not to rely on the state for a living. Evidently the object of an education is to fit the child for the duties of life: to train and develop its physical, mental and moral potentialities so that it will be able in "the struggle for existence" to fight its own battles, and to prosecute successfully whatever calling our business it may undertake for its life work, to the end that it may make an upright, substantial, and useful citizen and not become a charge on society.

This scheme for state medicine belongs in the category of various other plans and socialistic doctrines for poverty and social justice—the doctrines of Karl Marx, Rosseau, Lenin, Stalin, Mussolini, Hitler and all the other so-called saviours of the people. They will fail in America, because they are not founded on the bed-rock principles of Christianity and justice and because they are in conflict with our cherished American democratic principles of equality and liberty. Our distinguished friend, the Rev. Louie D. Newton, has aptly said of these socialistic schemes that "they are of no more value than a sand poultice to a wooden leg." They all cost more than

they are worth—cost money, cost liberty, cost self-respect. I believe our American people will prefer the doctrine of the founders of our republic, the doctrines of Washington, Franklin, Patrick Henry, and the other distinguished patriots whom we honor and adore. State medicine is directly in conflict with the Jeffersonian doctrine of "equal rights to all and special privileges to none," because *it imposes a direct and arbitrary burden upon our best citizens with the design of affording special benefits to the least worthy of our population.* State medicine takes away our freedom to exercise our individual rights and imposes external restraint and compulsion. It is socialistic, uneconomic, unjust, unfair, unwise, undemocratic, un-Christian, antithetic to our American system of government, repulsive to the American mind, and its adoption would operate as a degrading and debasing influence on the moral stamina of our people, and would be calamitous to our profession.

STATE MEDICINE*

CHAS. H. RICHARDSON, M.D.
Macon

Any discussion of state medicine should begin with a frank presentation of the conditions which have led up to the birth of the idea.

The solution of any problem requires a clear understanding of its nature and all of us must admit that one of the problems which confronts organized medicine is that of supplying adequate medical service to the low-income group at a price they can afford to pay.

Any fundamental consideration of the problem must begin with an analysis of the economic status of the potential recipients of medical service. There are 120,000,000 people in the United States of America. It is estimated that 50 per cent of the total income is received by 10 per cent of the population, that 10 per cent have no income at all, and the proponents of socialized medicine claim that 80,000,000 people in the United States receive inadequate medical care.

Let us bring the problem nearer home and we find that our own state of Georgia has

*Read before the Sixth District Medical Society, Macon, December 15, 1937.

3,000,000 population, 70 per cent of which is rural and 30 per cent urban. The average urban income is less than \$1,500.00 and the average rural income is less than \$1,000.00. This would indicate that there is a large class of our people who are by economic necessity unable to pay for the medical care which they need.

Now there is another side to this problem that confronts the doctor himself. He finds himself practicing in a highly competitive market and views with dismay the encroachments of public health, free hospital clinics, corporate practice, upon the private practice of medicine. He must cheerfully assume the burden of the indigent sick without compensation and, if he is so bold as to suggest that this might be the burden of society as a whole, he is regarded as one who is faithless to his holy orders.

For years there has been an unsatisfactory relationship between the supply and demand for doctors and too many doctors are being turned out without due thought to the real needs of the country. In the United States there is one doctor to every 780 people, in England there is one to 1,490, in France one to 1,690, and in Sweden one to 2,890. The Committee on Medical Education estimates that the proper relationship in the United States should be one to 1,200 persons. So at present we have a surplus of 35,000 doctors.

So these are the problems. On the one side a large percentage of the population who receive inadequate medical care, and on the other side a medical profession with a surplus of doctors. All of us will admit that it is easier to discover and set up problems than it is to find their solutions. But the good of organized medicine requires that we face them frankly, discuss them and attempt to solve them.

In regard to the problem of the doctor himself the question of surplus and supply is largely a matter of education and a responsibility lies with the high schools and colleges of the states to call this situation to the attention of prospective students of medicine in no uncertain terms. But probably an easier way to attack it is to work for a better distribution of the profession. There is a tendency for all recent graduates to congregate in the large centers and we must encourage the

men to go to the rural districts in larger numbers. If they are to do this we must make rural medicine more attractive and profitable and we must encourage the planning and building of community hospitals throughout the rural centers.

Now let us look at the problems of the recipients of medical service and see some of the suggested solutions. At the top of the list we must place health insurance in its various guises of state medicine, corporate practice, group practice by hospitals and universities, and contract practice. We will dismiss the latter three from this discussion by simply saying that corporate practice makes an employee of the physician and that in most states, including our own, corporations have no right under the law to practice medicine though it is being done in our own state in a few instances. Practice by hospitals and universities is unfair in that they use endowment and tax funds to compete with the private practice of medicine. Contract practice is bad in principle and this practice in most instances creates cut-throat competition and leads to rackets.

Now let us turn to state medicine or socialized medicine and discuss it in somewhat more detail. It plans to put medical care for the laboring class and other low-income groups on a group payment basis, financed by taxation. There is no doubt that it was a part of the social security program of the present administration and has only been held off by the intelligent objections of organized medicine.

If it comes it will be financed by a tax upon the individual, upon the employer, and supplemented from the federal treasury. It will furnish medical service of all kinds and will be accompanied by cash benefits to the ill or injured when they are away from work. It will apply to all workers in industry but will exempt farm laborers and domestic servants. Thus it will not prove a great benefit to the rural sections.

The insured will be divided into groups or, as they call them in England, panels, and each doctor will have a certain allotted number of patients and will be paid so much per month per patient. He will have to make numerous and voluminous reports to federal bureaus and will be asked to certify to all disability claims or sick leaves in order that the

insured may receive cash benefits. Naturally, this will lead to a certain amount of malingering and, if he is not generous in extending sick leaves, his patients will request to be transferred to other panels and it is easy to see that the unscrupulous physician will have the most patients and make the most income.

The whole thing would be under the control of a political bureaucracy which would be extremely distasteful to the average practitioner of medicine, because it makes the physician a federal employee and subject to political dictation. It prevents free choice of a physician and thereby destroys the old personal relationship of physician and patient.

I would like to call your attention to two forms of this movement which have been put forth in the past year and have been promoted or sponsored by branches or representatives of our government in the form of trial balloons to try to see how the wind is veering and to see just what the reaction of the organized medical profession will be.

One of these is known as Group Health Association, Inc., which was organized in February of this year in the District of Columbia and will afford medical and hospital service for all government employees. It was sponsored by the Federal Home Loan Bank board and it is believed that the funds for organization were raised by that board though they have not as yet admitted it.

In order to avoid posting with the authorities of the district a reasonable reserve which is required of all insurance companies it was incorporated under benevolent, charitable, and educational provisions of the code as a mutual benefit association. Specifically it offers medical and hospital service to all federal employees in the District of Columbia and the surrounding states of Maryland and Virginia for the sum of \$39.60 per annum for married couples and \$24.60 for single people. These membership dues were to be collected by deductions from federal pay rolls which is known as the check-off system and is not allowed in any other branch of organizations of federal employees.

In the District of Columbia there are 115,912 federal employees and as it is proposed to extend this to all federal employees everywhere this would reach a total group of 840,-

159 federal employees and these with their dependents would aggregate 2,500,000 people. The Association plans to employ full time physicians and give its members only the choice of this full time staff. Thus, it is planned to remove 2,500,000 people from the private patient group who are at present under the care of private physicians. If this plan succeeds, it will be a great boost for the cause of state medicine as it is being planned in the nature of an experiment.

Another development during the past year was the speech of U. S. Senator J. Hamilton Lewis before the House of Delegates of the American Medical Association on June 10, 1937, in which he stated and claimed with the full authority of the president that it was the purpose of the government to render free medical service to any citizen that required it and, to make of all doctors in America civil officers of the United States government. And he had the temerity to say, "It is not a question of whether you like it or not, dear doctors, but what are you going to do about it."

This was followed at the regular session of congress by the introduction of senate resolution No. 188 which provides that any practitioner of medicine who is called to treat any indigent person shall be required to do so and furnish whatever medical or hospital service necessary under penalty of fine or punishment if not done, and any hospital which refuses admission to the patient will suffer similarly. Fortunately it provides that the bills for this service will be paid by the federal government.

This is such a fantastic scheme that it never reached the floor of congress and it is easy to see that the burden of taxation which would follow in its wake would be staggering. However, it does behoove organized medicine to keep abreast of these developments and keep informed in order that it may present a united front to those who would tear down its accepted standards of practice.

If the state and federal governments wish to do something toward solving the problem of inadequate medical care for the low income group, it would seem best to start with the indigent and let it be an evolutionary process.

Health insurance fails completely to provide for the unemployed and the unemployed who are most in need of aid, and federal

and state subsidies under proper control would seem to have definite advantages in providing medical care for those who need it most and at present are unable to get it.

The weight of charity service is growing to such an extent that some practitioners do not receive even a subsistence income and society should help absorb the cost of caring for the indigent sick. This could be done by state or federal subsidies to institutions which maintain free clinics and charity beds for the indigent sick on a sound permanent basis with fair compensation for professional services rendered. If the hospitals and clinics are to be adequately subsidized for this service, there is no reason why the doctors who do the work should not be paid for it.

At the same time larger federal and state grants should be made to health departments in order that the work of preventive medicine could be increased and thus cut down the number of indigent persons who become sick on account of failure to secure adequate preventive service.

Perhaps the dominant fear in the minds of most of us in regard to this is that it may turn into some sort of radical boomerang and prove an entering wedge for state medicine. However, we must all admit that adequate medical care of the indigent is not possible in many communities without public aid, and if the profession lines up squarely behind a program of this kind, socialized medicine can be forestalled by a conservative system of subsidies to adequate medical care and directed by doctors.

In conclusion, let us look briefly at state medicine in the countries which have tried it. In Europe it has been definitely shown that it has resulted in a poorer quality of medical practice and interferes with the free choice of a physician, destroys individual initiative, and substitutes quantity for quality practice, and the records of all these countries show that a poorer quality of medical service for the indigent exists in them than in this country. All these schemes are fallacious because we cannot handle humanity in the mass from the standpoint of medical care. The sick man is still an individual, a human being.

The Michael Reese Hospital, Chicago, offers a graduate course in electrocardiography, August 22 to September 3. If interested write the medical librarian.

STATE MEDICINE*

M. M. McCORD, M.D.

Rome

Is it likely that the politicians of the country can manage the rendering of adequate medical service to the American people better than the physician?

Medical progress has been constantly on the incline for the past 100 years, especially during the last half century when the greatest strides of all time have been made. It is reasonable to suppose that if the matter is turned over to the politicians that the medical men of our nation would have the same incentive for progress.

It has been said on good authority that during the past ten years enough money has been spent on surveys to take adequate care of those detected by the survey. The surveys are still going on and the doctors are left to provide for the indigent.

The surveys are in the hands of business economists, sociologists, efficiency engineers and social service workers. These men and women possibly stand high in their particular fields, but in their eagerness to startle the world with doing an outstanding humanitarian act they overlook the fact that medical men only know such problems from a practical and working standpoint when it comes to developing the best solution to apply medical service to the entire human family.

If there is anything lacking in the service of the medical men let those who would revolutionize the entire structure make it known and the profession stands ready and willing, as it always has, to render the service needed. What other profession has ever adopted such a tradition of real sacrifice for the good of the masses? If we estimate the average cost of medical care to the indigent ones of our country in dollars and cents, the medical man has rendered a greater service to charity than any other profession or organization of any kind in the world. Our contribution to charity in this country every year is more than the combined appropriations from our national and every state government in our land.

Is it the contention of those who would change the whole plan of medical practice

*Read before the Seventh District Medical Society, Cartersville, April 6, 1938.

that the service rendered to the American people in the past has proved a failure? We have today less sickness and a smaller number of deaths in relationship to our total population than any other civilized nation anywhere in the world. Are our Americans without funds to pay for medical service? Not when the average family pays one hundred and fifty dollars for motor cars, sixty-seven dollars for tobacco, thirty-seven dollars for candy, thirty-four dollars for drinks and chewing gum, twenty-five dollars for radios and musical instruments, and twenty-four dollars annually for the doctor.

If the state is so interested in medical care why is it that it does not eliminate quacks, and thus prevent the expenditure of one hundred and twenty-five million dollars each year for such folly? Why doesn't the state control patent medicine and thus save the people three hundred fifty million dollars each year spent on worthless and even dangerous nostrums? Has the state ever, by any act, shown that it is able to take over the scientific practice of medicine?

It seems that most of the men who are taking a lead in state medicine are college professors who attempt to teach economy, sociology, etc., coupled with the great hordes of social service workers. Has it ever been shown in the leadership of our nation that teachers with their vivid imagination, based on technicalities, or social service workers, based on their sentimentality, are able to make practical application of the needs to the great rank and file of citizens of this nation? Is there any good reason why those who are trained in the art of human needs, but have not a practical bone in their bodies, are better qualified to work out the needs of medical service to the masses than the one hundred fifty thousand physicians who for many decades have given of their time and service in every home of the land and in thousands of free clinics, regardless of sex, creed, nationality or financial consideration?

The class of men and women who are clamoring for control of medical practice by the state, the same as the management of education, do not stop to consider that in every city, town, village and school district throughout this land the local people have full charge of the selection of their teachers,

the subjects taught and the textbooks used, yet they would deprive those who need the service of a physician from having any part in the selection of the one to come into their home and render service to members of their family. From time immemorial it has been a matter of real pride and joy of the afflicted that they could have the privilege of selecting their own doctor. I believe it was Dr. William Mayo who made the statement a few years ago that it was his conclusion that 75 per cent of the illnesses of the human family are either improved or cured by the proper administration of applied psychology. He did not mean that it required a professor of psychology to render the needed service, but rather the appearance of the family physician by the bedside, with his assurance of relief. The family doctor has, for at least a century, been the friend and guiding star of the family, not only in matters of health but also in everything that affects the welfare of the home. Even the very poor man who has not a penny to pay has a preference in the doctor consulted. To get the physician he prefers usually means a quicker restoration to health and a more contented patient.

It has been the contention of our medical leaders throughout the nation that medicine is a doctor's problem and the proper application of measures in practice to get the very best results is strictly up to the physicians of our country. Only doctors are entitled by education, training and experience to practice medicine. They are licensed by their respective states for this service to humanity and no other person or class has a right to dictate the policies which shall be followed in the rendering of service. Such success as has come to state medicine *anywhere* practiced has been the result of the cooperation by the physicians of the government and not by any private meddling of non-medical men or women. It is evident that not one of the systems of state medicine administered abroad is satisfactory to the people, the government or the physicians of the countries concerned. This applies equally to the German system, now more than fifty years old, and to the British system in effect, now nearly a quarter of a century. All these systems are subject to constant change. The celebrated Tugwell has said that no system developed abroad

could be applied suitably to the people of the United States. If they have failed with the kind of politics they have, what reason have we to believe that our American politics would be any more successful?

Those who are fostering the idea of state medicine will perhaps tell you that under such a system the quacks, patent medicine nostrums, etc., would be less, but common sense will tell you that such will not be true, for the people would become so dissatisfied with the manner of apportionment of medical service that many would become so disgusted they would turn to quacks and dangerous patent medicines as an escape from such a system. It is claimed that experience shows that in countries where such a system has been in practice for any length of time, these charlatans have greatly multiplied because the people were dissatisfied with what the state was giving them in exchange for their free choice of a family physician.

The great and absorbing question is, Who wants state medicine? Certainly not the medical profession, for it has asserted in no uncertain terms opposition to it. Certainly not union labor, for organized labor has never, to any appreciable degree, aligned itself with such movements at any time. It could not be industry, for industry is weighted down today under the burden of heavy taxation. It could not be the vast majority of people, because we find among them no real dissatisfaction with the kind of medical service they are receiving. Were it put to a vote of the people in this country to say whether or not they want state administered medicine, the great majority would sound out in no uncertain terms the word "NO." Then who is it that is creating this unrest in the profession and the people of this country? It is nothing short of a goodly number of technical advisers who have developed the imagination of a reasonable following of uninformed people who think that it is possible to slice off medical service and administer to the sufferers just about like one would slice off bread and pass out to the needy. The medical profession would suffer by such a system of state medicine, but the greatest losers of all would be the great rank and file of citizens of our country who would sustain an irreparable loss by following any such false

leadership. How many professors ever knew anything except how to teach school? Many of them are not expert at that, so why should they think they are better to direct the policies of the medical profession when as a rule they are the most impracticable set of folks among any profession we have in our country today. Some of the present unrest in our country today may be the result of unwise guidance by a group of men who are technical but void of an ounce of practical sense.

It seems that some of the states have passed laws authorizing the county commissioners to assume medical care of indigents within their respective counties and to include in their annual levies sufficient funds for this purpose. Following up this plan some of the counties have carried out the provisions of the law and have assumed full care of those within their jurisdiction who are found, after investigation, to come in the class of indigents. The commissioners in such counties furnish the doctors of the county a list of the indigents and any regular physician is given authority to make one call and submit his bill as per schedule agreed upon by the county medical society and the commissioners. However, if a second call to the same patient becomes necessary during one attack of illness, it would be necessary for such physicians to get permission from the governing board before same will be authorized against the county funds.

Very few counties, it seems, have adopted this plan as yet. Many counties seem to be content with the county physician, who is usually on a small salary, to look after these victims the best he can, and stop at that. Other counties appropriate a small amount for a hospital bed in private hospitals, with the understanding that the physicians do the indigent work without charge. In the larger centers where there are city or county hospitals, an appropriation is made to the hospital for the institutional care of indigent cases but nothing is provided for medical care.

A bill (H. R. 9847) introduced in the Congress of the United States by Representative Treadway of Massachusetts proposes to establish a system of compulsory national health insurance under the direction of a health insurance commission consisting of a chairman and not more than four other members, appointed by the President of the United

States. Employees who receive less than \$1,800.00 per year have 2 per cent of their weekly wages deducted by their employer, to be not less than 35 cents nor more than 70 cents a week, and with this the employer supplements 1 per cent of the insured's weekly wage, not less than 20 cents nor more than 35 cents a week. The combined 3 per cent of the weekly wages are mailed to the Health Insurance Commission. This weekly payment to the commission entitles the insured to free medical and hospital services.

The insured may select his physician or the Health Insurance Commission may appoint one who either receives his compensation monthly, or annually in the form of a salary or, by agreement, the compensation may be made on a fee basis. When a physician has accepted the position as physician under the terms of the agreement with the commission he is compelled to answer all calls. When he fails to comply with the terms of the commission, he is disqualified from doing any further health insurance practice and may be fined not less than \$10.00 nor more than \$500.00.

In my judgment the last named plan, suggested in the form of a bill now before Congress, fails absolutely to provide medical and hospital care for the indigent. There seems no good reason why laws should be passed for those who are able to work and meet their responsibilities. The indigent, from many causes, have always been with us and will be here to the end of time. They are our responsibility as American citizens and every taxpayer in the land should be compelled to pay his share in the proper care of the indigent. However, it seems to my mind that the plan adopted by some of the states in allowing the county commissioners to levy a special fund for the care of the indigent and then leaving the matter open for the selection of the physician of choice by the sick, and pay the medical services as agreed upon by the county medical society and the county commissioners would be much superior to the plan proposed by Congressman Treadway.

It is possible that hospital group insurance is a splendid idea. Every man or woman who has a job could pay the monthly hospital insurance premium as provided, and the county

and city authorities could take care of the hospital insurance premiums of the indigent and then let all of them use the hospital of choice. This would enable the sick who have jobs to pay their medical bills in the absence of a hospital bill, then it would perhaps be cheaper for the city and county to pay the hospital insurance monthly for the indigent rather than the full expense of them when ill. So far as the medical care of the indigent is concerned, I am quite sure that if the public treasury will supply hospitalization for indigents when they need it the members of the medical profession will be glad to continue their free services to this class. Every county should have some arrangements so that when indigents need hospitalization they can get it without too many words, then I can assure all that the indigents will never go without the best medical care, regardless of the fact that it means no income to the doctor. It should not be necessary for a physician to have to beg a community to allow hospitalization to an indigent that means not one cent of income to the doctor.

In conclusion, I beg to say that it is my firm conviction that state medicine or the so-called "socialized medicine" is bound to come sooner or later. It has already become a political matter. The politicians are feeling the thing out. Should they decide that by socializing medicine it would increase their popularity in the home districts, you may rest assured that bills will continue to be introduced and pressure will be put upon it by many of the "idealists" over the country and eventually in some kind of shape it will likely pass. However, in my judgment, it will be a sad day for the rank and file of citizens of our country.

If we are to have a complete change in the manner of rendering medical services it should be left in the hands of the physicians to work out such a plan designed for the good of all concerned. The most repulsive thing to a medical man is to have some officious layman sitting back in office giving orders to the doctors regarding medical matters. We have learned of some examples of that in some of our large Southern hospitals.

A working plan aimed as a substitute for the bill before congress should be outlined by the delegates to the American Medical Asso-

ciation, then from that plan each state association can have such material for a guide in working out something feasible for each state. Finally, each county medical society or community can use the outline from the American Medical Association and state association to work out local plans for the best interest of each community. It is possible for the physicians to work out a program much superior to what the sociologists, social workers and politicians can do, and one which will preserve the integrity of the medical profession and at the same time not abuse the relationship between the doctor and patient.

It must be remembered that there are thousands of medical men in our country who are not industrious enough to go before the people on their merits. These men are clamoring for medical jobs with a salary attached. I have recently read about two physicians, in middle life and graduates of good medical schools, who are sitting back waiting for the "relief wagon" to come by their homes. These same two men are very disgruntled because they cannot find a job with a salary. No doubt this type of doctor would be glad to line up with the politicians and have state medicine, with a hope of a salary.

This matter of state medicine is being forced upon us, not by the masses, but by idealists, dreamers, politicians, and job hunters, therefore it is very timely that the medical men over our country not go to sleep on this matter but be on the alert in our home districts as well as around the halls of congress, and do our part in protecting the homes of our land in a manner that will prevent anything being written into our statutes which will destroy the sanctity of the home in their choice and confidence in their doctors.

With apologies and much appreciation to our good friend, Dr. Morris Fishbein, Editor of the Journal of the A. M. A., who is without doubt the best informed man in our country today on the evils of state medicine, for his aid in furnishing me with much of the data for this paper.

Preventive medicine will be the keynote of the 23rd annual meeting of the American Association of Industrial Physicians and Surgeons which will be held concurrently with the Midwest Conference on Occupational Diseases at the Palmer House in Chicago, June 6th, 7th, 8th and 9th, 1938.

The official call of the A. M. A. for its 89th annual session is published on pages 200-201. The session will be held at San Francisco, June 13-17.

MEDICAL ASSOCIATION OF GEORGIA

Balance Sheet

May 1, 1937 to April 1, 1938

RECEIPTS

May 1, 1937

| | | |
|-------------------------------------------------------------------------------------|-------------|-------------|
| Fulton National Bank— | | |
| Cash subject to check | \$ 8,751.97 | |
| Fulton National Bank— | | |
| Savings account— | | |
| History fund | 1,231.29 | |
| Citizens & Southern | | |
| National Bank— | | |
| Savings account | 3,535.06 | |
| Interest on savings accounts | 115.54 | |
| Income from dues, advertising, exhibits, subscriptions, and Public Relations Bureau | 19,033.03 | \$32,666.89 |

DISBURSEMENTS

May 1, 1937, to

April 1, 1938

| | | |
|---------------------------|-------------|-------------|
| Paid out for all purposes | \$13,241.36 | |
| Fulton National Bank— | | |
| Cash subject to check | 8,043.64 | |
| Fulton National Bank— | | |
| Savings account— | | |
| History fund | 1,249.82 | |
| Citizens & Southern | | |
| National Bank— | | |
| Savings account | 5,088.28 | |
| First National Bank— | | |
| Savings account | 5,043.79 | \$32,666.89 |

MEDICAL ASSOCIATION OF GEORGIA

Receipts and Disbursements

May 1, 1937 to April 1, 1938

RECEIPTS

| | | |
|------------------------------|-------------|-------------|
| Dues | \$10,209.59 | |
| Advertising | 5,086.54 | |
| Public Relations Bureau | 2,531.40 | |
| Exhibits | 1,185.00 | |
| Interest on savings accounts | 115.54 | |
| Subscriptions | 20.50 | \$19,148.57 |

DISBURSEMENTS

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--|
| Journal | \$ 6,535.53 | |
| Salaries | 1,875.00 | |
| Medical Defense | 1,055.85 | |
| Delegates and representative to A.M.A. | 400.00 | |
| Reporting Macon session | 301.94 | |
| Stereoptican machine and desk | 203.67 | |
| Postage | 382.00 | |
| Burlap, lumber, wiring and work on scientific exhibit. | | |
| Mason session | 406.64 | |
| Public Relations Bureau | 349.33 | |
| Badges, Programs, loud speaker, night watchman, work at registration desk, sheeting, messenger, expenses of H. L. Rowe, Dr. C. Hall Farmer, signs and work cleaning auditorium at Macon | 337.13 | |

| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------|
| Cancer Commission and expenses of other committees | 222.17 | |
| Stationery for officers and committees | 193.57 | |
| Stationery for office | 113.93 | |
| Honorarium for president | 150.00 | |
| Telephone and telegraph | 84.53 | |
| Invited guests at Macon session, Council, insurance and bonds, reprints for officers and committees, printing, binding, rent, pencils, T. W. ribbon, flowers for deceased past presidents, floor prints for Augusta session | 630.07 | |
| Gain | 5,907.21 | \$19,148.57 |

THE JOURNAL
Receipts and Disbursements
May 1, 1937 to April 1, 1938

RECEIPTS

| | | |
|-------------------------|------------|------------|
| Subscriptions from dues | \$4,374.11 | |
| Advertising | 5,086.54 | |
| Subscriptions | 20.50 | \$9,481.15 |

DISBURSEMENTS

| | | |
|-------------------------------------------------------------|------------|------------|
| Printing | \$3,775.03 | |
| Salaries | 1,875.00 | |
| Cuts for illustrations and work on electros for advertisers | 337.90 | |
| Postage | 257.00 | |
| Commission on advertising orders | 158.55 | |
| Envelopes for mailing Journal | 82.05 | |
| Rent | 67.50 | |
| News items | 50.00 | |
| Profits | 2,878.12 | \$9,481.15 |

DISBURSEMENTS

May 1, 1937 to April 1, 1938

| No. | Name | Amount |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| 2730 | H. F. Sharpley, Jr., M.D. Expenses incurred as chairman of the Committee on Maternal Mortality and Infant Deaths (outstanding at the close of the last fiscal year) | \$ 26.92 |
| 2755 | Webb & Martin, Inc. Printing and mailing 2,100 copies of the April, 1937 issue of the Journal | 305.93 |
| 2756 | Service Engraving Company Cuts for illustrations and work on electros for advertisers, less 2% | 15.69 |
| 2757 | L. F. Livingston, Postmaster Deposit for postage to mail The Journal | 25.00 |
| 2758 | Ivan Allen-Marshall Company Typewriter ribbon and cards for files | 2.10 |
| 2759 | Southern Bell Telephone & Telegraph Company Telephone account to April 21, 1937 | 7.38 |
| 2760 | The Lilley-Ames Company 900 Badges for the Macon session, | |

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| May 11-14, 1937 | 50.21 |
| 2761—John H. Harland Company 15,000 No. 10 Envelopes | 41.40 |
| 2762—J. F. Thompson Engraving Co. 4,000 Engraved letterheads | 26.00 |
| 2763—Atlanta Envelope Company 25,250 Envelopes for mailing the Journal | 82.05 |
| 2764—Edgar D. Shanks, M.D. Salary as Secretary-Treasurer for April, 1937 | 150.00 |
| 2765—H. L. Rowe Salary as Executive Secretary for April, 1937 | 175.00 |
| 2766—Miss Annie Jacks Commission on advertising orders | 8.25 |
| 2767—Miss Annie Jacks Commission on order for advertising | 22.50 |
| 2768—J. A. Redfearn, M.D. Expenses incurred as Councilor | 20.00 |
| 2769—Fulton Bag & Cotton Mills 802 Yards of burlap dyed green for the scientific exhibit | 73.32 |
| 2770—Webb & Martin, Inc. 900 Programs for the Macon session of the Association, 250 programs for the Woman's Auxiliary, and 1,000 registration cards | 130.60 |
| 2771—Webb & Martin, Inc. Printing and mailing 2,100 copies of the May, 1937 issue of the Journal | 310.58 |
| 2772—W. M. Barron Printing signs for the Macon session, May 11-14, 1937 | 4.50 |
| 2773—Cash paid Mr. Grant Cash paid on work for the scientific exhibit | 20.00 |
| 2774—J. T. McCallum Night watchman for the commercial exhibit, Macon session, May 11-14, 1937 | 12.00 |
| 2775—Mrs. J. H. Rentz Work at registration desk, Macon session, May 11-14, 1937 | 16.00 |
| 2776—Newton Coal & Lumber Co. and J. D. Grant Material and labor building booths for the scientific exhibit, Macon session May 11-14, 1937 and for subsequent sessions | 367.75 |
| 2777—H. L. Rowe Room rent and meals during the Macon session from May 9 to May 14, 1937 | 21.75 |
| 2778—Cash Cash paid for work on the commercial and scientific exhibits at the Macon session, May 11-14, 1937, cleaning auditorium daily, drapery, lumber, carpenter work and express | 30.60 |
| 2779—L. F. Livingston, Postmaster | |

| | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Postage | 30.00 | Salary as Executive Secretary for May, 1937 | 192.50 |
| 2780—Hotel Dempsey, Macon | | 2796—C. W. Roberts, M.D. | |
| Expenses for the invited guests at the Macon session, May 11-14, 1937 | 6.90 | Payment on expenses to attend the Atlantic City session of the American Medical Association, June 7-11, 1937, as delegate | 100.00 |
| 2781—First National Bank—North Avenue Branch, Atlanta | | 2797—Olin H. Weaver, M.D. | |
| Deposited on savings account—\$5,000.00. This fund has not been disbursed, therefore, is not run in the disbursement fund. | | Payment on expenses to attend the Atlantic City session of the American Medical Association, June 7-11, 1937 as delegate | 100.00 |
| 2782—Roy D. McClure, M.D., Detroit | | 2798—Wm. H. Myers, M.D. | |
| Expenses to and from Macon as invited guest of the Association during the Macon session, May 11-14, 1937 | 48.45 | Payment on expenses to attend the Atlantic City session of the American Medical Association, June 7-11, 1937 as delegate | 100.00 |
| 2783—C. Hall Farmer, M.D. | | 2799—Edgar D. Shanks, M.D. | |
| Long distance phone calls before and during the Macon session and arranging for the session, May 11-14, 1937 | 3.75 | Payment on expenses to attend the Atlantic City session of the American Medical Association, June 7-11, 1937 in official capacity as Secretary-Treasurer of the Association and editor of the Journal | 100.00 |
| 2784—J. C. Penney Company | | 2800—William Anderson | |
| Sheeting used for screen during Macon session, May 11-14, 1937 | 2.72 | Work, polishing and painting in office | 5.00 |
| 2785—Masonic Home of Georgia | | 2801—Service Engraving Co. | |
| Services of operator of picture machine and page during the Macon session, May 11-14, 1937 | 10.00 | Cuts for illustrations and repairs on electros for advertisers—less 2% | 9.17 |
| 2786—Stewart-Goett Electric Co. | | 2802—Fulton County Medical Society | |
| Wire and installation of wiring in Municipal Auditorium, Macon, and used during the Macon session, May 11-14, 1937 for the commercial and scientific exhibits | 95.57 | Rent for May, June and July, 1937 | 30.00 |
| 2787—Stanton Sound Service | | 2803—J. F. Thompson Engraving Co. | |
| Loud Speaker used in the Municipal Auditorium, Macon, and its installation for use during the Macon session, May 11-14, 1937 | 55.00 | Letterheads and envelopes for President, Geo. A. Traylor, M.D. | 29.75 |
| 2788—Southern Press Clipping Bureau | | 2804—Lyon-Young Printing Co. | |
| News clippings for April and May, 1937 | 10.00 | No. 12 and No. 6¼ Envelopes for the Public Relations Bureau | 18.75 |
| 2789—Southern Bell Telephone & Telegraph Co. | | 2805—Logan Clarke Insurance Agency | |
| Telephone account to May 21, 1937 | 7.50 | Renewal of Surety Bond for Edgar D. Shanks, M.D., Secretary-Treasurer, May 25, 1937 to May 25, 1938, No. FB-2021 | 5.00 |
| 2790—Lyon-Young Printing Co. | | 2806—L. F. Livingston, Postmaster | |
| Binding 11 volumes of the 1936 Journals | 18.00 | Postage for the Public Relations Bureau | 30.00 |
| 2791—Southern Typewriter Co. | | 2807—The Master Reporting Co. | |
| Work on typewriter | 6.00 | Copies of discussions, minutes and proceedings of the Macon session, May 11-14, 1937, with carbon copies | 301.94 |
| 2792—The C. A. Dahl Co. | | 2808—Miss Annie Jacks | |
| Floral design for Dr. J. O. Elrod, deceased, past president of the Medical Association of Georgia | 10.50 | Commission on advertising orders | 7.33 |
| 2793—Walter W. Brown Publishing Co. | | 2809—J. E. Penland, M.D. | |
| 5,000 Subscription cards and 5,000 drafts for the Public Relations Bureau | 19.75 | Expenses incurred as Councilor | 23.25 |
| 2794—Edgar D. Shanks, M.D. | | 2810—J. L. Campbell, M.D. | |
| Salary as Secretary-Treasurer for May, 1937 | 150.00 | Expenses of Cancer Commission to revamp and reconstruct scientific exhibit of the Commission | 100.00 |
| 2795—H. L. Rowe | | 2811—M. M. McCord, M.D. | |
| | | Expenses incurred as Councilor | 27.00 |
| | | 2812—L. F. Livingston, Postmaster | |

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------------------------------------------------------------------------------------|--------|
| Postage | 30.00 | Banister, traveling expenses and phone calls | 55.85 |
| 2813—Webb & Martin, Inc. | | 2832—L. F. Livingston, Postmaster | |
| Printing and mailing 2,150 copies of the June, 1937 issue of the Journal | 315.93 | Postage | 30.00 |
| 2814—Webb & Martin, Inc. | | 2833—Webb & Martin, Inc. | |
| Reprints for the Public Relations Bureau of the report by the Committee on Public Policy and Legislation, extra proofs of the President's address and financial statement | 28.35 | Printing and mailing 1,950 copies of the August, 1937 issue of the Journal | 299.52 |
| 2815—Ivan Allen-Marshall Co. | | 2834—L. F. Livingston, Postmaster | |
| Stationery for the Public Relations Bureau and folders for files | 13.35 | Postage | 30.00 |
| 2816—Walter W. Brown Publishing Co. | | 2835—Associated Mutuals | |
| 1,000 Voucher checks | 12.60 | \$1,000 Fire Insurance—premium to cover to August 24, 1938 | 5.70 |
| 2817—L. F. Livingston, Postmaster | | 2836—Ivan Allen-Marshall Co. | |
| Deposit for postage to mail the Journal | 25.00 | Gem clips, wrapping paper and twine | 4.35 |
| 2818—Edgar D. Shanks, M.D. | | 2837—The Shallcross Co. | |
| Salary as Secretary-Treasurer for June, 1937 | 150.00 | Stencils, ink and varnish for mimeograph machine | 5.55 |
| 2819—H. L. Rowe | | 2838—Southern Bell Telephone & Telegraph Co. | |
| Salary as Executive Secretary for June, 1937 | 192.50 | Telephone account to July 21, 1937 | 6.81 |
| 2820—Southern Bell Telephone & Telegraph Co. | | 2839—J. F. Thompson Engraving Co. | |
| Telephone account to June 21, 1937 | 9.10 | Printing 5,000 acknowledgment cards | 1.75 |
| 2821—Service Engraving Co. | | 2840—Service Engraving Co. | |
| Work on electros for advertisers, cut from photo of Dr. Grady N. Coker, President-Elect, and cuts for the Committee for the Study of Maternal Mortality and Infant Deaths | 27.36 | Cuts for illustrations, repairs and changes on electros for advertisers, less 2% | 48.75 |
| 2822—Shaw-Walker | | 2841—Edgar D. Shanks, M.D. | |
| Steel desk and chair | 100.00 | Salary as Secretary-Treasurer for August, 1937 | 150.00 |
| 2823—L. F. Livingston, Postmaster | | 2842—H. L. Rowe | |
| Postage | 30.00 | Salary as Executive Secretary for August, 1937 | 192.50 |
| 2824—Webb & Martin, Inc. | | 2843—Southern Bell Telephone and Telegraph Co. | |
| Printing and mailing 1,900 copies of the July, 1937 issue of the Journal | 295.88 | Telephone account to August 21, 1937 | 7.30 |
| 2825—Webb & Martin, Inc. | | 2844—Shanks Jewelry & Music Co., Inc. | |
| Reprints of officers and committees for 1937-38 | 12.00 | Victor Stereopticon machine, screen and other equipment for projector (lantern slides) | 103.67 |
| 2826—Southern Press Clipping Bureau | | 2845—Webb & Martin, Inc. | |
| News clippings for June and July, 1937 | 10.00 | Printing and mailing 1,950 copies of the September, 1937 issue of the Journal | 301.02 |
| 2827—Edgar D. Shanks, M.D. | | 2846—L. F. Livingston, Postmaster | |
| Salary as Secretary-Treasurer for July, 1937 | 150.00 | Postage | 30.00 |
| 2828—H. L. Rowe | | 2847—L. F. Livingston, Postmaster | |
| Salary as Executive Secretary for July, 1937 | 192.50 | Deposit to pay postage due mail | 10.00 |
| 2829—John H. Harland Co. | | 2848—L. F. Livingston, Postmaster | |
| 7,500 Letterheads for officers and committees | 43.50 | Deposit for postage to mail Journal | 25.00 |
| 2830—Service Engraving Co. | | 2849—Southern Press Clipping Bureau | |
| Cuts for illustrations—less 2% | 17.20 | News clippings for August and September, 1937 | 10.00 |
| 2831—Bryan, Middlebrooks & Carter, Attys. | | 2850—Service Engraving Co. | |
| Attorney's fee for Mr. Graham in suit of Eugene Smith vs Dr. W. G. | | Cuts for illustrations, less 2% | 59.97 |
| | | 2851—Edgar D. Shanks, M.D. | |
| | | Salary as Secretary-Treasurer for September, 1937 | 150.00 |
| | | 2852—H. L. Rowe | |

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Salary as Executive Secretary for September, 1937 | 192.50 | Journal | 303.16 |
| 2853—Southern Bell Telephone and Telegraph Co. Telephone account to September 21, 1937 | 6.15 | 2871—L. F. Livingston, Postmaster Deposit for postage to mail Journal | 25.00 |
| 2854—L. F. Livingston, Postmaster Postage | 30.00 | 2872—Ivan Allen-Marshall Co. 5,000 Yellow second sheets | 3.25 |
| 2855—Miss Annie Jacks Commission on advertising orders | 8.89 | 2873—J. F. Thompson Engraving Co. 2,000 Engraved letterheads for Dr. Geo. A. Traylor, President; 2,000 engraved letterheads for Secretary-Treasurer and 1,000 engraved envelopes | 27.93 |
| 2856—American Surety Co. Premium on surety bond for Homer L. Rowe, September 6, 1937 to September 6, 1938—No. 237072-D | 5.00 | 2874—Southern Press Clipping Bureau News clippings for October and November, 1937 | 10.00 |
| 2857—Walter W. Brown Publishing Co. 5,000 Subscription cards for the Public Relations Bureau, advertising contracts and rates, health examination record blanks | 36.35 | 2875—A. B. Dick Company I Quire mimeograph stencil paper | 3.50 |
| 2858—Fulton County Medical Society Rent for August, September, October, November and December, 1937 | 50.00 | 2876—Edgar D. Shanks, M.D. Salary as Secretary-Treasurer for November, 1937 | 150.00 |
| 2859—Webb & Martin, Inc. Printing and mailing 2,000 copies of the October, 1937 issue of the Journal | 303.16 | 2877—H. L. Rowe Salary as Executive Secretary for November, 1937 | 192.50 |
| 2860—L. F. Livingston, Postmaster Postage | 30.00 | 2878—Southern Bell Telephone & Telegraph Co. Telephone account to November 21, 1937 | 6.15 |
| 2861—Southern Bell Telephone & Telegraph Co. Telephone account to October 21, 1937 | 6.15 | 2879—Service Engraving Company Mortising and mounting electros for advertisers | 3.01 |
| 2862—Walter W. Brown Publishing Co. 500 Large Karlton Clasp Envelopes for the P.-T. A. and Dr. Theodore Toepel | 9.75 | 2880—L. F. Livingston, Postmaster Postage | 30.00 |
| 2863—Webb & Martin, Inc. 300 Reprints of Dr. Toepel's article for P.-T. A. Health Examination Records | 2.00 | 2881—R. G. McGowan Company Printing ordered by Mrs. Ralph H. Chaney, president of Woman's Auxiliary and used for the Public Relations Bureau | 6.85 |
| 2864—Edgar D. Shanks, M.D. Salary as Secretary-Treasurer for October, 1937 | 150.00 | 2882—Geo. A. Traylor, M.D. Honorarium for President, 1937-38 | 150.00 |
| 2865—H. L. Rowe Salary as Executive Secretary for October, 1937 | 192.50 | 2883—L. F. Livingston, Postmaster Postage | 30.00 |
| 2866—Ivan Allen-Marshall Co. Journal to register members for 1938, typewriter ribbon, erasers and carbon paper | 6.75 | 2884—Miss Annie Jacks Commission on advertising orders | 50.75 |
| 2867—Service Engraving Co. Repairs on electros and cuts for illustrations | 86.10 | 2885—Webb & Martin, Inc. Printing and mailing 2,100 copies of the December, 1937 issue of the Journal | 313.54 |
| 2868—J. F. Thompson Engraving Co. 5,000 Engraved letterheads, 3,000 engraved envelopes with name of President, Geo. A. Traylor, M.D. | 52.92 | 2886—William Anderson Special work as janitor | 3.00 |
| 2869—L. F. Livingston, Postmaster Postage | 30.00 | 2887—L. K. Starr, Georgia News Service News service for Public Relations Bureau—articles mailed to county newspapers | 25.00 |
| 2870—Webb & Martin, Inc. Printing and mailing 2,000 copies of the November, 1937 issue of the | | 2888—Edgar D. Shanks, M.D. Salary as Secretary-Treasurer for December, 1937 | 150.00 |
| | | 2889—H. L. Rowe Salary as Executive Secretary for December, 1937 | 192.50 |
| | | 2890—Southern Bell Telephone & Telegraph Co. Telephone account to December 21, 1937 | 6.15 |
| | | 2891—Service Engraving Company | |

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| Mounting and mortising electros for advertisers and zinc etching for illustration | 5.00 | January | 10.00 |
| 2892—Webb & Martin, Inc. 2,000 Membership cards for 1938; 2,000 forms for reporting dues by members to county secretaries | 21.50 | 2910—T. C. Davison, M.D., Chairman Amount contributed by the Troup County Medical Society, November 16, 1937, for present to be given to Dr. J. L. Campbell, Atlanta | 4.00 |
| 2893—L. F. Livingston, Postmaster Postage | 30.00 | 2911—Joe Boone Work for the Committee on Public Policy and Legislation during the last session of the General Assembly of Georgia | 50.00 |
| 2894—S. H. Benedict Prints of two lobby floors in the Forest Hills Hotel, Augusta, to be used for exhibits during the Augusta session, April 26-29, 1938 | 37.40 | 2912—Miss Annie Jacks Commission on advertising orders | 18.50 |
| 2895—Miss Annie Jacks Commission on advertising orders | 17.08 | 2913—Western Union Telegraph Co. Telegraph account for January, 1938 | 2.59 |
| 2896—Webb & Martin, Inc. Printing and mailing 2,050 copies of the January, 1938 issue of the Journal | 306.80 | 2914—Webb & Martin, Inc. Printing and mailing 2,075 copies of the February, 1938 issue of the Journal | 308.62 |
| 2897—Miss Annie Jacks Commission on advertising order | 9.75 | 2915—L. F. Livingston, Postmaster Postage | 30.00 |
| 2898—Southern Bell Telephone & Telegraph Co. Telephone account to January 21, 1938 | 7.55 | 2916—Service Engraving Company Cuts for illustrations and changes in electros for advertisers | 36.20 |
| 2899—Ivan Allen-Marshall Company Stamp pads, stamp pad ink, T. W. ribbon, writing fluid, paper and rule | 6.05 | 2917—Walter W. Brown Publishing Co. 2,000 Forms for Health Examination Records for Dr. Toepel and Parent-Teacher Association | 11.10 |
| 2900—Carithers-Wallace-Courtenay, Inc. Three stapling machines and staples | 14.70 | 2918—Herff-Jones Company President's Key for Dr. Geo. A. Traylor, President, 1937-38 | 8.27 |
| 2901—L. F. Livingston, Postmaster Deposit to pay postage on The Journal | 25.00 | 2919—Southern Bell Telephone & Telegraph Co. Telephone account to February 21, 1938 | 6.58 |
| 2902—Bryan, Middlebrooks & Carter, Attys. Retainer for attorney's fee from January 1, 1938 to December 31, 1938 | 1,000.00 | 2920—A. B. Dick Company Mimeograph stencils and ink | 12.00 |
| 2903—Edgar D. Shanks, M.D. Salary for Secretary-Treasurer for January, 1938 | 150.00 | 2921—Edgar D. Shanks, M.D. Salary for Secretary-Treasurer for February, 1938 | 150.00 |
| 2904—H. L. Rowe Salary for Executive Secretary for January, 1938 | 192.50 | 2922—H. L. Rowe Salary for Executive Secretary for February, 1938 | 192.50 |
| 2905—H. L. Rowe Expenses at, to and from Augusta, January 8th and 9th to get sketch of floor plans in the Forest Hills Hotel to be used for commercial exhibits, April 26, 27, 28, 29, 1938 during the Eighty-Ninth Annual Session of the Association | 6.50 | 2923—Fulton County Medical Society Rent for January, February, March and April, 1938 | 55.00 |
| 2906—Service Engraving Company Cuts for illustrations | 29.45 | 2924—Ivan Allen-Marshall Company Filing cabinet to be used for the Public Relations Bureau—sent to home of Secretary-Treasurer | 48.18 |
| 2907—L. F. Livingston, Postmaster Postage | 30.00 | 2925—James E. Paullin, M.D. Telephone call to Washington, D. C. to invite Hon. Walter F. George to deliver an address at the Augusta session, April 27, 1938 | 3.65 |
| 2908—Betty Longley, Florist Floral wreath for Dr. J. M. Smith, deceased, Past President of the Association | 10.00 | 2926—J. F. Thompson Engraving Company Engraving name of Dr. J. L. Campbell and subject of achievement on the Hardman Loving Cup | 8.50 |
| 2909—Southern Press Clipping Bureau News clippings for December and | | 2927—Western Union Telegraph Company Telegraph account for February, 1938 | 1.47 |

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| 2928—L. F. Livingston, Postmaster | |
| Postage | 30.00 |
| 2929—Miss Annie Jacks | |
| Commission on advertising orders | 13.00 |
| 2930—Mrs. C. M. Burpee, Augusta | |
| Commission on advertising order | 2.50 |
| 2931—L. F. Livingston, Postmaster | |
| Postage | 30.00 |
| 2932—Citizens & Southern National Bank, Atlanta | |
| Transfer to savings account — \$1,500.00. | |
| 2933—Webb & Martin, Inc. | |
| Printing and mailing 2,200 copies of the March, 1938 issue of the Journal | 410.89 |
| 2934—L. F. Livingston, Postmaster | |
| Postage | 30.00 |
| 2935—Mrs. G. R. Sims | |
| Clerical work during the fiscal year, 1937-38 for the Association and Public Relations Bureau | 100.00 |
| 2936—Edgar D. Shanks, M.D. | |
| Travel and entertainment expenses as Secretary-Treasurer during the fiscal year 1937-38 | 75.00 |
| May 22, 1937—Check, Dr. J. T. Holt, Baxley | |
| Returned unpaid and paid June 1, 1937 | 7.00 |
| Sept. 16, 1937—Check, Dr. C. W. Findley, Vidalia | |
| Returned unpaid and paid Sept. 30, 1937 | 7.00 |
| March 25, 1938—Check, Dr. T. S. Burgess, Atlanta | |
| Returned unpaid and paid March 30, 1938 | 5.00 |
| Exchange deducted by Fulton National Bank during the fiscal year, 1937-38 | 11.65 |
| TOTAL | \$13,241.36 |

By economy in medication BERNARD FANTUS, Chicago (*Journal A. M. A.*, March 19, 1938), does not mean the use of inferior remedies, for the first principle of economy in prescribing is that the most efficient remedy is likely to be the cheapest. The second principle in the economy of medication should be: Among drugs of equal efficiency, choose the least expensive. What this might mean in the case of hypnotics and analgesics is illustrated by tables. Two of the three most efficient hypnotics, namely, chloral hydrate and barbital, are also the cheapest. In such large institutions as the Cook County Hospital, the saving resulting from cooperation between the prescribing physician and the dispensing pharmacist might easily run into huge sums. Even in private practice it pays to economize in medication. Some physicians are nothing less than spendthrifts and wasters when it comes to prescribing. Economies can be practiced in the preparation of hypnotics, analgesics, disinfectants, placebos and in the drug room. These are discussed separately.

TRUTH AND THE SERENE LIFE*

J. K. HALL, M.D.†
Richmond, Va.

We are inclined, it would seem, to be thinking forever of the other place and of the other state. Though we are here, we are probably always wishing we were yonder. Man's motto has become: Elsewhere. But I could not blame you in this particular circumstance for feeling so. For you will discover that you have brought your pitcher to the fountain and that the fountain is not flowing. I, too, shall be embarrassed by finding out that the bucket sent by me down into the well is drawn up by me empty. But that is now a frequently recurring experience in my life.

Why do we continue to believe that the Promised Land is always the distant land and that the soil upon which we live is never productive of grapes nor of those succulences out of which milk and honey can be elaborated? God Himself, poets and philosophers, simple women and plain men, yea, our personal experiences inform us day after day that our most important individual world lies within each of us, rather than in that limitless cosmos about which the mightiest intellects can actually know little.

Almost the most impressive statement that I know is: "The place on which thou standest is holy ground." No being save God can confer holiness. The fact that He has given each of us a footing so sacred and so substantial should tend to encourage us to believe ourselves potentially competent to face the wind, whether it blow softly and soothingly from the South or bitingly and tempestuously out of the North. And the great Persian poet and philosopher of jocund fatalism relates in a single rubaiyat the most fateful and the most informative adventure yet made by mortal man:

"I sent my Soul through the Invisible,

Some letter of that After-life to spell:

And by and by my Soul returned to me,

And answered: I myself am Heaven and Hell."

Most of the great questions, fortunately for us, remain unanswered. Our chief satisfactions come from our attempts to translate the

*Read by invitation before a meeting of the Parent-Teacher Association of the Ginter Park School, at the Ginter Park School, Richmond, Va., Jan. 14, 1938.

†Medical Director, Department for Men, Westbrook Sanatorium, Richmond, Virginia.

unknown into the known. I often wonder with what degree of comfort God lives with His own omniscience. The highly intellectual man always becomes set apart in aloofness. The world's greatest and simplest teachers have been always more interrogative than didactic. The questions of Socrates were usually disturbing, but always provocative of thought. All of the world's wisdom is enmeshed. I think we should discover, in the book of Job, if we were only able to interpret the richness of its oriental imagery. That great prose-poem is filled with questions yet unanswered: "If a man die, shall he live again?" Zophar, one of the three boresome visitors to the miserable old patriarch, asked, as you may soon be asking: "Should a man full of talk be justified?" Do you make answer? God Himself, tiring, I should think, of the interminable harangues going on and on amongst the four—Job and his three visitors—finally deflated them all by demanding: "Who is this that confuseth counsel with words without knowledge?" What a terrible indictment to bring against four men wise in their own opinions, and against all the rest of us, their successors in vocalizations!

Parental anxiety about the child may be much older than recorded history. I know of the cry of no father more distressing nor grief more poignant than that of the shepherd lad who had become a mighty king. The cry of David has become the cry of every father, indeed, of all parents: "Is it well with the young man Absalom?" What mattered it that the young man, though beautiful and ingratiating, was lacking in the fundamentals of character? David, in his suspense and anxiety, was no longer king; he was only a heartbroken father, troubled and apprehensive about a wayward boy. "Is it well with the young man Absalom?" But the young man, suspended 'twixt heaven and earth, had already gone to his death. Some of David's uneasiness about Absalom might have been due to his knowledge that he himself was his son Absalom's father.

Why are we parents so apprehensive about the destinies of our children? May the uneasiness not arise in some measure out of the fact that we are the parents of our own children? Our attitude towards our children is based upon commingled hope and fear—hope

that they may grow up to be like us parents, and fear, often, too, that they will come to be mere replicas of us. Through offspring the individual has the opportunity to project herself and himself conjointly forever and forever into eternal perpetuity. Protoplasm, the fundamental structural basis of all life, vegetable and animal, represents in the child the only bridge over which parents can hope to journey from the past forever and forever into the future. That which hath been, protoplasmically speaking, is that which shall be, and there can be no new protoplasmic thing under the sun. So existence would seem to be a cycloidal recurrence—a constant repetition and a hurried recapitulation in the individual offspring of most of the ancestral experiences.

Is it baneful or beneficent, would you say, that in our brief personal lives we must give expression to the instinctive and the emotional urges of our ancestors—near and remote? What a dreadful predicament; what a terrible fate, to be either an ancestor or a descendant! And to be both would seem to multiply the catastrophe by at least two, though I speak humbly always and doubtfully when speaking mathematically. And this dear old maternal Commonwealth, mother of states and of statesmen, is filled with ancestors and descendants, too, is she not? What a grave responsibility! Well, the General Assembly, may God save us, has just convened, and the ancient Commonwealth would seem to be safe for at least sixty days.

And as to you teachers, though I place fear amongst the baser emotions, I pray that the makers of our laws may fear you sufficiently to cause them to deal with you appreciatively and more generously. For our school-teachers, ever since Eve proffered Adam instruction in pomology, have been our most influential citizens. I have never doubted for one moment that historic immortality is more certain for the teacher than even for the warrior. No human, no god, is so ever-living as those who have taught well—Homer, Moses, Solomon, Socrates, Plato, Aristotle, Marcus Aurelius, Jesus, Newton, Noah Webster, McGuffey and Thomas Arnold and each of you teachers.

Our thought about our children and about ourselves and about life is laden with fear. Why shouldn't we be afraid? We have made

the world almost unfit for habitation by rational and honest grown folks; why shouldn't we fear that our children should be destroyed or become vitiated?

Not infrequently an inquiry from a relative about a patient comes to me in some such language as the following: "What ails the young man; is he a weakling? Can't he stand up and face the issues of life and take the impingements on the chin?" Within the most recent week I made to such an interrogator a response somewhat thus as follows: "Why pick upon the young man of 22? Why not ask yourself and me and other old codgers of our decades why we have ruined the world as a place of habitation and made it unfit for likely youngsters and for ourselves and others to dwell in? Time was, even in my early maturity, when there was peace upon the earth and the air was not laden with bombs and the waters were not filled with torpedoes. And in those days solemn covenants amongst nations were inviolate, and ambassadors were respected and protected. But those good things we have driven out of life and there is no more assurance of quietness nor of safety in the world." Did I respond untruthfully to my correspondent, or too harshly?

I have not, nor shall I, participate in the condemnatory clamour against youth nor against youth's plaint against us for the tangled mess that we have made of a civilization that once was wholesome and serene and fair and that had some sense of decency and of honor and some smatch of courage in it. The Ethiopians—Homer always called them the blameless Ethiopians—have been blasted from their ancient earth and blown to smithereens by the civic descendants of Caesar and of Virgil and of Horace and of Dante; and the Chinese, unassertive and unprovoking, are harried from their homes by the hounds of Hell; and we continue to have commerce and ambassadorial dealings with the demons who befoul the sea, the earth, the air! Spain has been made an inferno; Russia has abolished God; the Holy Land has become a battlefield, and amongst all people materialism and might have become the only gods to whom they make obeisance.

Our concern should be about ourselves rather than about our children and about the children of others. Children are much more

recently from the hands of God than we, and they are infinitely less maculated than we. Any badness that we may think to find in children has been acquired by them by inheritance or has been instilled into them, wittingly or unwittingly, by us oldsters. Children are not innately bad. They may be born diseased, God save us! Were children bad the Master would not have said: of such is the Kingdom of Heaven. All meanness, if there be such a quality in children, comes to them either in consequence of contamination through heredity or through communion with tarnished adults. Few of us are fit for mere association with children; infinitely fewer are fit to presume to instruct them.

We do many things to children; we do probably few things for them. I seldom see a grown person, however ignorant or depraved, who does not presume to instruct children and to tyrannize over them. Those youngsters who have gone wrong must have been deflected from righteousness by conscienceless or stupid grownups. Children are often, through mere flight of imagination and by fabrication, untruthful for purposes of entertainment, but children do not naturally lie. There is a world of difference betwixt simple story telling and lying. The first is done without purpose to hurt; but lying is always malicious.

I spoke a little while ago of the fear that I think is dominating the world. Why are all the people afraid? Is the reason single or double? We have moved farther and farther from God. We have come to have less and less regard for truth. Attachment to truth always tends to rout fear. Acquaintance with God is the first exhibition of contempt of fear. The conception of God, the love of truth, the utilization of conscience, the possession of courage, respect for the basic virtues are all attributes of the individual. They are personal, not mass attributes. The group, if it has such qualities, must have them because the constituents of the group possess them. A group can have character only because of addition; but an individual cannot acquire character or any other virtue by absorption of those qualities as radiations from the group.

The fundamental virtues of the peoples of the world are in hibernation. Bears now deep

in the mountain forests are not dead. The apparent deep coma is hibernation—a condition poorly understood, but from which the bear emerges. The cardinal virtues in most of us as individuals are in hibernation. The knock of conscience and of truth and of courage upon the door of our hearts is often not even heard. We, too, are hibernating. In the home of your youth and of mine we were taught chiefly by example rather than by words to labor, to be frugal and not wasteful; to live simply and unostentatiously and always within our means and not parasitically and therefore dishonestly upon others. And we were taught not to lie, nor to steal nor to speak untruthfully of others. We acquired the notion, some of us, at least, that Calvinism meant pragmatically that pleasure and sin are synonymous terms; that what one objected to doing was good for one's soul, spiritual gymnastics; and that what one hungered and thirsted for probably had its origin in Hell and would land one in that torrid region. And that still small voice, that old Socrates called his *Daemon*, was supposed to be kept in good order at all times, just as the squirrel rifle was kept oiled and in readiness. Even long after I became a grown man, if I am grown up, right and wrong were still in existence; they were often spoken of and often right was utilized.

Young people, most of them, are wholesome and truthful, but few of the ancient virtues are active in us ancients. We have been for so long engaged in pretense and in evasion and in concern about superficialities and mere external appearances—well, we just haven't been able to do all things simultaneously and to be both natural and unnatural. The nations of the earth, including our own, are without interest in truth, and without the old courage. High representatives of the great English-speaking governments have been spat upon and insulted and shot and bombed and torpedoed. The insulting little peoples have proffered apologies; we have been so proud that we could not be even insulted. What do you suppose the Chinese think of our government and of us—whose missionaries, ecclesiastic and medical, are deserting the Chinese in their hour of sorest need? Has our government ordered the missionaries home? Have their churches told them to desert their

charges? Have the missionaries voluntarily vacated their posts? What do the Chinese think of our God, about whom we have been bragging to them so long, and of us?

I am untroubled about the children—yours and mine. But I am concerned about myself and about all those who are in charge of the world. Unless we can develop the willingness to seek Truth and to draw nearer to God—the same thing or two things?—well, I do not know the spaciousness of the place, but it probably will eventually become intolerably crowded, because we have been told where all people go who forget God.

We must not allow the individual human being to be crowded off the world—not by any group nor by any philosophy nor by any philanthropist nor by any foundationer nor by any cause nor by any amount of money. The reason for such out-of-time insistence upon the importance of the individual is that he and she are about to be nullified. That must not be permitted, for only the individual and not the group can have intelligence and conscience and character and basic virtues. The group feels and moves; it cannot think nor deliberate nor form a valid judgment. We must preserve our personal integrity so that we may be exemplars for our children. If we should lose our divine attributes our children would despise us and they should despise us. And we must turn to the house of our fathers that we may be rid of fear, for fear flees away from truth. Serenity and peace and life in its wholesomeness and fullness can be only where simplicity and truth are.

In their dissertation on noise and its effect on human beings CAREY P. MCCORD, *Detroit*; EDWI E. TEAL, *Ann Arbor, Mich.*, and WILLIAM N. WITHERIDGE, *Detroit* (*Journal A. M. A.*, May 7, 1938), conclude by saying that the American Medical Association's Committee on Air Conditioning recognizes that proper air conditioning is one factor tending to diminish the ill effects of noise of some types. The procurement of closed windows, doors and other sound barriers commonly associated with artificial climates in public buildings, office buildings, department stores, theaters and so on may eliminate as much as 75 per cent of the noises of extraneous origin. In industry, air conditioning offers little promise of protection against noise for workers employed near the origin of noise. Vibration in ranges below audibility has a prominent role in the production of injuries arbitrarily classed as noise diseases. Although inaudible vibrations may involve occupied areas that may be air conditioned.

THE PRESIDENT'S PAGE

THE AUGUSTA MEETING AND SOME THINGS THAT EVERY GEORGIA PHYSICIAN SHOULD OBSERVE

The eighty-ninth annual session of THE MEDICAL ASSOCIATION OF GEORGIA was one of the best attended meetings we have had. Seven hundred eight persons registered for the meeting.

The scientific exhibit was the best in the history of our Association, and worthy of any physician's time. Our program was well represented with good papers that showed the present progress of medical and surgical practice throughout Georgia. Our distinguished guests, Dr. Irvin Abell, of Louisville, Ky., president-elect of the *American Medical Association*, Senator Walter F. George of Georgia, and Dr. George H. Semken of New York City, gave wonderful addresses.

Dr. Abell warned us that every effort to induce the government to aid in extending medical service might carry control with it. He made an extensive review of our present problems in regard to socialized medicine, and stated that government efforts are feeble, a drop in the bucket, clumsy and ill-ordered as compared with vigorous private action. Even government invasion of research work may check private initiative.

Senator George warned that "state medicine," a fighting term to organized medicine, means control by "raw politicians," and that he would hate to see the intimate personal relationship, which in his old-fashioned way he had always been led to believe is part of the practice of medicine, subject to political control. He said the American concept of government was to allow full individual freedom, and that he would hate to see the time come when 130,000,000 people would have to look to a bureau in Washington for the things they have been accustomed to figuring out for themselves.

Dr. Semken's lecture on the "Problem of the Lump in the Breast" showed the fruits of years of work and was well worth the time of every surgeon in Georgia to hear.



The address of our retiring President, Dr. George A. Traylor, in which he called upon the members to map plans to provide proper medical care for everybody, brings to light our major objectives during the present year. One hundred thirty-nine counties in Georgia have no hospital facilities, and several have no physicians. Proper medical care for every individual in our State demands more rural hospitals and redistribution of our doctors in order to take care of our large rural population. Our forefathers built and made medical and surgical practice what it is today, and its preservation depends upon better distribution of service to everybody. The needy and semi-needy in our State can only be taken care of by proper legislative measures designed to allow county medical societies, with the aid of county officers, to provide proper hospital facilities, and a place for our younger doctors to work, who are willing to carry their service where it is most needed today.

The present survey of the *American Medical Association* on the supply of medical service must receive the active support of every Georgia physician. Our State Board of Health and State Welfare Department will be requested to aid in this survey, which should furnish some valuable information in regard to solving our problems. The total number of states now distributing study material to their component county medical societies, and organizing for the study, is thirty-six. More will be added as soon as possible.

GRADY N. COKER, M.D.

THE JOURNAL

OF THE

MEDICAL ASSOCIATION OF GEORGIA

Devoted to the Welfare of the Medical Association of Georgia

478 Peachtree Street, N. E., Atlanta, Ga.

MAY, 1938

WILLIAM HERMAN MYERS, M.D.

Dr. William Herman Myers of Savannah will be the ninety-first President of THE MEDICAL ASSOCIATION OF GEORGIA, having been elected President-elect at the Augusta session just ended. In addition, Dr. Myers was re-elected for the sixth consecutive time a delegate to the *American Medical Association*.

The son of the late Dr. Robert Morgan Myers and Margaret McCorkle Myers, William Herman Myers was born at Lynn Grove, Kentucky, Oct. 22, 1878. His early education was obtained in the schools of his native State. In 1901 he received his degree of Doctor of Medicine from the University of Tennessee and an honorary certificate. For some time he was an intern at the Nashville City Hospital, Nashville, and a member of the sub-faculty of his Alma Mater.

Dr. Myers served as a contract surgeon and, later, an active member of the Medical Reserve Corps of the United States Army from 1906-13, when he resigned to enter private practice in Savannah. He was stationed in the Philippine Islands from 1907-10. During the World War he re-entered the service of his country and served as a Captain in the Medical Corps of the United States Army. He is at the present time a Lieutenant Commander in the United States Navy Reserve Corps.

For more than twenty-five years Dr. Myers has been an active member of his local medical society, The Georgia Medical Society, and has held every office in that society. His ability for leadership was soon recognized by his colleagues in other sections of the State and he has occupied numerous positions of trust, including: President of the First District Medical Society; Councilor of THE MEDICAL ASSOCIATION OF GEORGIA for eight years, and delegate to the *American Medical Association* for more than ten years. He has served on many other committees which represented organized medicine, always with



William Herman Myers, M.D.
Savannah
President-elect, 1938-1939

credit to his profession. In addition, he has done an active practice and devoted part of his time to civic affairs, being a member of several local boards and commissions. He was one of the founders of the Savannah Health Center and its first president. He is a Fellow of the American College of Surgeons, 32nd Degree Mason, and Vestryman in Christ Episcopal Church, Savannah.

Dr. Myers married Miss Addine Campbell of Nashville, Tennessee, in 1910. To them have been born William Herman Myers, Jr., now a sophomore at Jefferson Medical College, Philadelphia; Addine Myers, and Robert Morgan Myers. Dr. and Mrs. Myers and their children have long been identified with the cultural life of their home city.

The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.

AUGUSTA SESSION

The eighty-ninth annual session of THE MEDICAL ASSOCIATION OF GEORGIA was replete with scientific and cultural progress. In addition, the House of Delegates and the Council attended to a large volume of business, abstracts of which will appear in *The Journal* from time to time.

Augusta's physicians and their wives were most gracious in entertaining visiting members and their wives. The guest speakers were received cordially and left their hearers messages worth while.

Officers for 1938-39 are: Dr. Grady N. Coker, Canton, President; Dr. William H. Myers, Savannah, President-elect; Dr. Peter B. Wright, Augusta, First Vice-President; Dr. W. Bruce Schaefer, Toccoa, Second Vice-President; Dr. J. W. Simmons, Brunswick, Parliamentarian, and Dr. Edgar D. Shanks, Atlanta, Secretary-Treasurer. Dr. C. W. Roberts, Atlanta, and Dr. William H. Myers, Savannah, were re-elected delegates to the *American Medical Association*. Dr. M. C. Pruitt, Atlanta, and Dr. W. A. Mulherin, Augusta, were also re-elected alternate delegates to the *American Medical Association*.

The next annual session of the Association will be held in Atlanta, May 9-12, 1939.

HONORS

Genuine pleasure is experienced by all parties when honors are bestowed upon one whom we all love. Such was the occasion at the public meeting of the Augusta session when Dr. T. C. Davison of Atlanta, acting in behalf of the physicians of Georgia, presented to "Uncle Jimmy" Campbell of Atlanta a beautiful silver service. Inscribed upon the silver are the following words:

James LeRoy Campbell, M.D., F. A. C. S.

In Appreciation of

*His Service to the Citizens of Georgia
in the Prevention and Cure of Cancer
and*

*for His Untiring Work as Chairman of
the Cancer Commission
of the*

*Medical Association of Georgia
for the Past Twenty Years
Presented by His Colleagues
at the Public Meeting of the*

*Eighty-Ninth Annual Session
of the
Medical Association of Georgia
Augusta
April 27, 1938.*

Dr. V. P. Sydenstricker, Augusta, professor of medicine at the University of Georgia School of Medicine, won the L. G. Hardman award in recognition of his research on pellagra. Certificates of merit for the best scientific exhibits were awarded to Dr. Richard Torpin, Augusta, professor of obstetrics at the University of Georgia School of Medicine; Dr. D. Henry Poer, Atlanta, and Dr. Edgar F. Fincher, Atlanta.

THE TREATMENT OF PLEURISY
WITH EFFUSION

The treatment of pleurisy with effusion may be conveniently divided into two phases: one dealing with the acute inflammatory process, and the other directed toward the subsequent care of the individual who has been the victim of an attack. In consideration of this latter phase, the significant thing to keep in mind is that in most cases of pleurisy with effusion the causative agent is the tubercle bacillus. It has been estimated that over 90 per cent of these wet pleurisies or pleural effusions are tuberculous, and are always to be considered as such when there is no other obvious explanation. This means therefore that the case is more than one with just an attack of pleurisy with effusion, but rather is suffering from a tuberculous infection. This in turn means that the patient must be treated with the usual prolonged regimen, and after care, now well known to be associated with tuberculosis. It should be an invariable rule that every case of pleurisy with effusion should be considered a potential case of pulmonary tuberculosis—if this be not already present—and treated as such. If this were done then many instances of the following experience would be eliminated. A patient comes into the out-patient clinic suffering from far advanced pulmonary tuberculosis. The record of his previous admission one, five or perhaps fifteen years ago, shows an admission for a pleurisy with effusion. It also shows that the acute condition was treated—yes satisfactorily—but he was dismissed afterwards with no follow-up advice, "foot loose

and fancy free." He was probably told on his re-admission that he had a weakness for chest troubles. It takes no imagination to tell where the weakness really was. It was in the knowledge and experience of those who first attended him. He should have been treated as a case of pulmonary tuberculosis following his first admission.

During the acute phase, the patient is quite ill and is to be treated along the general lines of any acute febrile painful illness. This encompasses such measures as absolute rest in bed, soft diet, free fluids, anodynes and sedatives. Codeine in small and frequent doses serves a useful purpose in relieving the characteristic pain in the chest as well as the shallow harrassing cough. Counterirritation to the chest as mustard plasters, camphorated oil and antiphlogistine is a most welcomed and helpful procedure. Strapping the chest with adhesive tape is often spectacular in splinting the affected side and relieving the severe pain on breathing. After it has served this purpose, it should be removed (and this is readily and painlessly done with gasoline) in order that the chest may be better observed for further developments, as fluid formation. There is no specific drug for pleurisy. Calcium has many advocates, and may be administered in any of the several forms in which it is marketed. The usual dosage is from 20 to 45 grains daily in divided doses. Sodium salicylate has its supporters, and may be given in 15 grain doses three times a day. Saline cathartics probably help considerably in relieving toxemia and favoring the elimination of the fluid accumulation in the pleural cavity.

The management of the effusion itself has always been the subject of debate, and has resulted in varying opinions. Formerly it was deemed wise by the majority of observers, to aspirate only when the effusion caused mechanical embarrassment to the respiration or circulation. It was felt that otherwise the fluid should be left alone in that it served to compress the underlying lung which so often subsequently proved to be diseased. With the recent advances in collapse therapy, it is now the custom to remove the fluid and replace with air. This removes the inflammatory products but maintains the lung compression. Reaccumulation of fluid is definitely deterred, and a rapid disappearance of the fever, sweats

and other toxic features are often noted. The hard irritative cough so frequently noted following aspiration, and usually requiring a hypodermic of morphine, is rarely seen when this method is employed. Due to the rapid expansion and relaxation of the lung following the removal of large amounts of fluid, a dangerous pulmonary edema may occur. It is not safe, for this reason, to aspirate more than 1,000 cc. With air replacement, the counter or buffer pressure makes it possible to safely, and in comfort, remove all the available fluid. If it is suspected or known that the underlying lung is diseased, then the pneumothorax should be maintained for a prolonged period from several months to a few years. The duration would depend on the extent of the lung involvement. If the condition of the underlying lung is unknown, then this may be ascertained by making an x-ray film when the lung is considerably but not completely expanded. The future policy would then rest upon this examination. In conclusion, it might be well to mention that the practice of injecting a small amount of the pleural exudate parenterally has been largely abandoned.

CHAMP H. HOLMES, M.D.

OFFICIAL CALL

To the Officers, Fellows and Members of the American Medical Association:

The eighty-ninth annual session of the American Medical Association will be held in San Francisco, California, from Monday, June 13, to Friday, June 17, 1938.

The House of Delegates will convene on Monday, June 13.

The Scientific Assembly of the Association will open with the General Meeting held on Tuesday, June 14, at 8:30 P. M.

The various sections of the Scientific Assembly will meet Wednesday, June 15, at 9:00 A. M. and 2:00 P. M., and subsequently according to their respective programs.

J. H. J. UPHAM, *President*
NATHAN B. VAN ETEN,
Speaker House of Delegates

Attest:

OLIN WEST, *Secretary*
Chicago, Ill., March 15.

HOUSE OF DELEGATES

The House of Delegates will convene at 10:00 A. M. on Monday, June 13, 1938, in the Empire Room of the Hotel Sir Francis Drake, Powell and Sutter Streets.

REPRESENTATION

The apportionment of delegates made at the Atlantic City Session of 1937 entitles your State Association to three delegates for 1938-39-40.

"A member of the House of Delegates must have been a member of the American Medical Association and a Fellow of the Scientific Assembly for at least two years next preceding the session of the House of Delegates at which he is to serve.

"Delegates and alternates from constituent associations shall be elected for two years. Constituent associations entitled to more than one representative shall elect them so that one half, as near as may be, shall be elected each year. Delegates and alternates elected by the sections, or delegates appointed from the United States Army, United States Navy and United States Public Health Service shall hold office for two years."—*Chap. I, Secs. 1 and 2, By-Laws.*

RULES FOR THE GUIDANCE OF THE COMMITTEE ON CREDENTIALS

Adopted by the House of Delegates at Atlantic City, N. J., June 6, 1912

1. Credentials shall be of two parts. The first shall be sent to the office of the Secretary of the American Medical Association by the secretary of the constituent association, not later than seven days prior to the first day of the first meeting of the House of Delegates, and shall be a list of delegates and alternates for that association. The constituent associations shall designate an alternate for each delegate, who may take the pledge of the delegate when authorized to do so by said delegate in writing. In the absence of such authority, any alternate who has been duly chosen by the constituent association may be seated in place of any delegate who is unable to attend, provided he presents proper official authority from said association. A certificate signed by the president or secretary of the constituent association shall be deemed legal authority (as amended June 7, 1921).

2. Each delegate shall be furnished with a credential by the secretary of the association by which he is elected on a prescribed form furnished by the Secretary of the American Medical Association, which shall give the date and terms for which he was elected and who was elected to act as alternate for him in case of his inability.

3. A delegate, on presenting himself to the Committee on Credentials, may be seated even though he may not present part 2 of his credential, provided he is properly identified as the delegate who was elected by his association and whose name appears on the Secretary's record.

4. No alternate may be seated unless his credentials meet the same requirements as designated for the delegate and he can show written evidence that he is empowered by his delegate to act for him, except as provided for in Section 1 as amended (as amended June 7, 1921).

5. When a constituent state association reports that one of its elected delegates and his elected alternate are both unable to attend a specified annual session of the American Medical Association, the constituted authority of said constituent state association may fill the vacancies caused by the absence of both an elected delegate and

his elected alternate, and such a substitute delegate or his substitute alternate who presents proper credentials signed by the president and secretary of said constituent state association shall be eligible to regular membership in the House of Delegates of the American Medical Association in such a specified session (as adopted, May 12, 1932).

SCIENTIFIC ASSEMBLY

The Opening General Meeting, which constitutes the opening exercises of the Scientific Assembly of the Association, will be held Tuesday evening, June 14, 1938, at 8:30. The Sections will meet on Wednesday, Thursday and Friday, June 15, 16 and 17.

CONVENING AT 9:00 A. M. THE SECTIONS ON Surgery, General and Abdominal.

Ophthalmology.

Pediatrics.

Pharmacology and Therapeutics.

Nervous and Mental Diseases.

Dermatology and Syphilology.

Gastro-Enterology and Proctology.

Radiology.

CONVENING AT 2:00 P. M. THE SECTIONS ON Practice of Medicine.

Obstetrics and Gynecology.

Laryngology, Otology and Rhinology.

Pathology and Physiology.

Orthopedic Surgery.

Urology.

Preventive and Industrial Medicine and Public Health.

REGISTRATION DEPARTMENT

The Registration Department will be open from 8:30 A. M. until 5:30 P. M. on Monday, Tuesday, Wednesday and Thursday, June 13, 14, 15 and 16, and from 8:30 A. M. to 12:00 noon on Friday, June 17, 1938.

COUNTIES REPORTING FOR 1938

Stephens County Medical Society

The Stephens County Medical Society announces the following officers for 1938:

President—E. F. Chaffin, Toccoa.

Vice-President—J. E. D. Isbell, Toccoa.

Secretary-Treasurer—Clarence L. Ayers, Toccoa.

Delegate—W. B. Schaefer, Toccoa.

Alternate Delegate—W. B. Heller, Toccoa.

Censors—J. E. D. Isbell, W. B. Schaefer and J. H. Terrell.

Altamaha Medical Society (Appling County)

The Altamaha Medical Society announces the following officers for 1938:

President—E. J. Overstreet, Baxley.

Secretary-Treasurer—J. T. Holt, Baxley.

The American Heart Association will hold its fifteenth scientific session in the Sir Francis Drake Hotel, San Francisco, California, June 10-11, 1938, 9:30 A. M. to 5:30 P. M. The general heart program will be given on June 10. The study of peripheral circulation will be presented on June 11.

GEORGIA DEPARTMENT OF PUBLIC HEALTH

T. F. ABERCROMBIE, M.D., *Director*

A REVIEW OF THE GEORGIA STATE HEALTH DEPARTMENT MALARIA CONTROL PROGRAM

A review of the Georgia Malaria Control Program over the past seven years shows impressive accomplishment in anti-anopheline work, principally drainage in over 100 malaria counties. This work has been executed by city and county prisoners and paid free labor, industries, land owners and state and local road departments.

Supervision and promotion of the work, including part-time resident engineering service, has been almost exclusively furnished by skeleton forces of the State Sanitary Engineering Division, engaged on a general public health engineering program. During the periods of greatest activity, the State Health Department was operating on the lowest per capita budget of any southern state, while less than 20 per cent of our counties had health departments, principally one man organizations; and a county sanitary engineer was employed in only one malaria county.

This work was accomplished primarily through the Engineering Division of the State Health Department determination to carry on aggressive anti-anopheline promotion, and through field forces to seize every opportunity for extending malaria protection to Georgia citizens through the drainage of any quadrimaculatus breeding area.

This program has probably prevented more malaria mortality and morbidity per dollar of health department funds expended than any other possible plan of operation. While malaria has not been eliminated in any single local area, extensive reduction has been achieved in many.

Nevertheless, as a low overhead program, it has necessarily been lacking in important malaria control essentials, and to a considerable extent in the permanency and continuity of systematic local control operations.

Increased appropriations from State and Federal sources are now making it possible to close these gaps, by converting our program from a low to a moderate overhead basis, by which means we are utilizing social security funds toward better malaria control.

First, through joint promotional effort by the county health, nursing and engineering divisions, about 50 counties are now served by minimum 3 piece health units, and about 40 of these are 4 piece units, involving county sanitation or sanitary engineering assignments, and I might mention that all sani-

tarians are required to be engineers. While county personnel is assigned and budgeted on a basis of general public health needs—not specific disease problems—they furnish for the first time, a local nucleus to plan, execute and, most important of all, to promote and sustain good local malaria control. They are the backbone of our improved malaria program.

Second, as most of the Federal funds and increased State appropriations in Georgia are being spent for local health service under county health officer administration, the State must necessarily assign principal responsibility for new malaria control promotion to the county health commissioner. In his promotion and planning he is privileged to call upon the State for assistance. Commissioners in a number of subsidized counties are earnestly endeavoring to meet that obligation in full.

In this respect we are fortunate in that on January 1, 1938, the great majority of our primary malaria counties will be served by organized health departments with local engineering service, even though only a minority of our total 159 counties are so organized.

Third, the Division of Sanitary Engineering maintains 3 division field officers, each serving a third of the State, or about 50 counties each, on all environmental sanitation problems under the State Health Department. The functions of these officers are all embracing, but are partly superseded by specialists in state-wide charge of water and sewerage, malaria engineering, typhus control and mattress sanitation, who render direct field service in special situations.

Malaria service by each division office has been recently amplified by a general purpose mapping engineer engaged in making county and city maps and an Assistant Division Engineer, Malaria Control; these being additional to the malaria control services of general Assistant Division Engineers.

The operation of these men on routine malaria control is coordinated and directed by the Division Engineer. Malaria services discharged by the division office include response to all calls for malaria assistance and information originating within the territory, initial promotion of prospective county-wide program counties, supervision of all minor impounded water problems, and all municipal construction, maintenance and larvacidal programs not in county-wide control counties; also all rural programs less than county-wide in scope, including work relief drainage. These functions are over and above any de-

tail engineering service available in organized health department counties, and are grouped under the general heading "routine malaria control."

Each Assistant Engineer Malaria Control is also "on call" for such detail service in county-wide program counties as may be requested by the State office.

Fourth, effective December 1, 1937, the State office position of "Associate Engineer—Malaria Control" was established, and is filled by a former division engineer. As a specialist, he will have general supervision over all malaria engineering in the State. In matters of routine malaria control, his service will be a limited consultative assistance to the 3 division engineers. In matters of county-wide malaria control, he will be the engineering representative on the State Office Malaria Unit, and jointly under the Malariologist and the State Sanitary Engineer. As coordinator between the routine and county-wide malaria programs and between the engineering field divisions, he will further concentrate on general problems common to both programs by (a) establishing a technical information service covering all major and minor details of physical malaria control methods, including specifications, equipment data, etc.; also, general malaria control statistics and economic loss studies. A monthly bulletin is planned to distribute this information, which will also include promotional suggestions. (b) Continuation of malaria engineering instruction through the State Training School, and its potential introduction into the University System. (c) Maintenance of an operating relationship with other State departments, including the State Highway, Fish and Game, and Parks departments, State Planning Board, and State and Federal Mapping Agencies.

Fifth, extension of malaria educational activities. Two films are currently being prepared. One, a four reel film is intended jointly for the training of general public health field workers at the State Training School and at field conferences, and for telling the story of organized county-wide control operations to Boards of Commissioners and civic clubs. The other, a one reeler, is a visual education film for white and colored rural community groups, patterned after the Rockefeller Foundation film.

Sixth, and of paramount importance to county-wide control plans, is the early installations of a Malaria Investigation Division, comprising a malariologist, medical epidemiologist, biologist and affiliated associate engineer.

Local resources to a large degree are inversely proportional to the prevalence of endemic malaria. Consequently, malaria in this

country can be ultimately controlled only by supplementing local funds with State and Federal funds for professional control operations, similar to existing subsidization of local highway and educational systems and health service. Even then malaria control will of necessity conform to land utilization principles, protecting people in small rural communities or living on productive land, and largely rejecting public responsibility for marginal population when anopheline suppression measures are not economically justified.

Until then, practical planning dictates the rendering of two grades of malaria control service by the State, one a high overhead service for the county, able and willing to support county-wide malaria control, the other a low cost routine service involving multiple use personnel, for the limited area demonstration county.

County-wide malaria control is essentially a county millage tax plan, and operations of the State Malaria Unit will be directly with that end in mind. Our experience indicates that the levying of a specific millage for malaria control offers more prospect for local program permanency than any other method of appropriation.

The cost of county-wide malaria control is naturally subject to considerable variation in different counties. In general, however, the plan may be considered practicable in counties with a total valuation in excess of \$4,000,000. A minimum tax of 2 mills, yielding \$8,000.00 to \$16,000.00 and exclusive of regular health department appropriations, is generally indicated for counties in the 4 to 8 million valuation group. Georgia has approximately 20 malaria counties with total valuations exceeding this minimum. Four counties are already operating on a malaria control millage tax basis, in addition to other county-wide program counties using other methods of appropriation.

L. M. CLARKSON, *Chief,*
Division of Sanitary Engineering.

THE PRACTICAL APPLICATIONS OF HUMAN BLOOD TYPING TESTS

Correction: With reference to my article on blood typing tests which appeared on pages 143-146 of the April, 1938 issue of the JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA, Vol. XXVII, No. 4, permit me to inform the readers that the Committee on Medicolegal Blood Grouping Tests of the *American Medical Association*, has recommended that the term "type" be used only when M and N properties are referred to, and the word "group" whenever O, A, B, and AB are mentioned.—E. B. SAYE, M.D., Macon, Ga.

WOMAN'S AUXILIARY: OFFICERS 1938-1939

President—Mrs. Warren A. Coleman, Eastman.
 President-Elect—Mrs. Eustace A. Allen, 18 Col-
 lier Road, N. W., Atlanta.

First Vice-President—Mrs. H. G. Banister, Ila.
 Second Vice-President—Mrs. Jas. L. Nevil,
 Metter.

Third Vice-President—Mrs. D. T. Rankin, Alto.

Parliamentarian—Mrs. Ralph H. Chaney, Forest Hills, Augusta.

Recording Secretary—Mrs. Cleveland Thompson,
 Millen.

Corresponding Secretary—Mrs. J. Cox Wall,
 Eastman.

Historian—Mrs. C. C. Brannen, Moultrie.

Treasurer—Mrs. Robert Woodbury, Augusta.

Fifth District

The Woman's Auxiliary to the Fifth District Medical Society met on March 30 at the Academy of Medicine in Atlanta. The members served a delicious dinner to the members of the society. Mrs. Stephen Brown, president of the Woman's Auxiliary to the Fulton County Medical Society, and Mrs. Carl Aven, wife of the president of the society, presided at the coffee tables.

Later the Auxiliary held an important business session, Mrs. Eustace Allen presided, and Mrs. Harry Lange acted as secretary. Dr. Charles R. Rein, of New York City, special consultant serologist, U. S. Public Health Service, gave a most interesting talk on "Syphilis as it Relates to Marriage and Pregnancy." Dr. Olin S. Cofer, president of the District Society, urged the cooperation of the women in the drive to stamp out syphilis.

Mrs. Allen appointed Mrs. O. H. Matthews, Mrs. B. L. Shackelford, and Mrs. Harry Rogers a nominating committee to present names of new officers at the October meeting. Mrs. Brown gave an interesting report of the year's work of the Fulton County Auxiliary. A number of visitors were welcomed at the meeting.

Fulton County

The Woman's Auxiliary to the Fulton County Medical Society met on April 1 at the Academy of Medicine on Prescott street. Mrs. Stephen Brown, president, presided and Mrs. Crawford Barnett, secretary, and Mrs. James Hanner, treasurer, gave reports. Each chairman submitted a written report of her work during the year, showing much excellent work accomplished. It was voted to send \$25 to the Student Loan Fund with the provision that it be increased to \$35 if additional money be collected. Mrs. Herbert Alden gave a most interesting reading from "Ether and Me" by the late Will Rogers.

Mrs. Charles Boynton, Mrs. James Bawner, Mrs. J. Bonar White, Mrs. Calvin Stewart and Mrs. Linton Smith were selected a nominating committee to present the slate of new officers in April. A change in the constitution making elections in May in the future with installation in June was approved. A delightful luncheon was served.

Georgia Medical Society

The annual meeting of the Women's Auxiliary to the Georgia Medical Society, Savannah, was held on April 1 at the home of Mrs. T. H. D. Griffiths, with the wives of the U. S. P. H. S. doctors acting as hostesses.

The Health Film Chairman reported the showing of two health films to school children. The Health Education Chairman reported having given a talk to a preschool group and having participated in health programs, and urged that the auxiliary be even more alert in matters pertaining to health, quoting the astounding figures given out by the State Health Department regarding the number of irregular practitioners in the country and the amount spent annually paying for the services of those inadequately trained individuals, as an example of the great need of Health Education Programs that would bring to the general public authentic, reliable health information.

A paper on the "Basic Science Law" written by Mrs. William R. Dancy was read and Mrs. G. Herman Lang read an address on the Jane Todd Crawford Memorial.

Mrs. Lester Neville gave a splendid report on the Auxiliary's observance of Doctors' Day. The assembly gave Mrs. Neville a rising vote for her splendid work as chairman of The Doctors Day Committee.

The report of the retiring president Mrs. A. A. Morrison told of the splendid progress of the auxiliary during the past year, of the placing of Hygiea subscriptions in the public schools, the gain of seven new members, the cooperation with the various health organizations and of the splendid programs and lovely social affairs of the association.

It was announced that the Women's Auxiliary to the Medical Society would be in charge of the enlistments on the opening day of the Cancer Control Drive, Mrs. L. M. Freedman and Mrs. S. F. Rosen being the lieutenants on that day.

The following officers were elected to serve for the coming year: Mrs. Lehman W. Williams, president; Mrs. Harry M. Kandel, first vice-president; Mrs. Lester Neville, second vice-president; Mrs. John W. Daniels, recording secretary; Mrs. Robert V. Martin,

corresponding secretary; Mrs. J. H. Pinholster, treasurer.

Richmond County

Final plans for entertainment of the Woman's Auxiliary to the Medical Association of Georgia were made at the April meeting of the Richmond County Auxiliary, held in the Doughty Nurses Home in Augusta. Mrs. Sadie Y. Thompson, chairman, made a report of the Cancer Control campaign and announced contributions and enlistments would be accepted through May 5.

BOOK REVIEWS

Cecil's Text Book of Medicine, by W. B. Saunders Co., 1937. Price \$9.00. This is a good collection of papers written by a great many authors. The number of authors is so great that it is impossible to write a review which would give just credit to each one. However, the compiler has arranged these papers excellently.

Among the chapters that might be considered of special value and clearly written are those on the acute infectious fevers, pneumonia, typhoid and typhus.

The texts on the subject of various poisons, as well as allergic reactions, are good. The subject of heart disease, including arrhythmias, muscular and valvular defects, kidney diseases and the combination of cardiovascular-renal disease have been well portrayed. Essential hypertension has been given special attention in this book and the classifications are good. It is unfortunate, however, that nothing new has been said, and probably cannot be said, on the subject of treatment. Diseases of the nervous system and especially the chapter on examination of the nervous system contains excellent information which should be carefully studied. One who understands diseases of the nervous system and knows how to make a diagnosis of these complexes is really standing on a pinnacle that is especially difficult to obtain. Rheumatism and the various forms of arthritis have been well discussed.

It would be difficult to find another collection of papers so extensive as this by various authors that could excel this one.

A. G. DELOACH, M.D.

Eyestrain and Convergence, by N. A. Sutterheim, M.D. (Rand). Arts (Staats-Examen, Holland); Part-time Ophthalmic Surgeon to the Johannesburg School Clinic, Transvaal Education Department; Late Assistant Eye Clinic, University, Leyden. Published by H. K. Lewis & Co., Ltd., London, 1937, 85 pages, price in Great Britain 7/6 net.

The author maintains that the frequent complaint of "eyestrain" is largely due to defective convergence, in addition to uncorrected refractive errors, and can be corrected by methodically calling into action the power of convergence. In order for a patient to be free of eye discomfort he maintains that the patient must have a marked reserve power of convergence.

His conception of convergence is that it represents an autonomic power of the mind, and that the power of convergence can be increased by kinetic treatment. He gives full details of his routine of examination and

treatment; briefly the treatment consists of daily exercises in the office for a period of four or five weeks, during which time he endeavors to increase the convergence power to well above 50 prism degrees. The results obtained in his patients are very striking and would appear that we should pay more attention to convergence weakness. He states that he has never seen a case of eyestrain that did not have a marked degree of asthenovergence.

ALTON V. HALLUM, M. D.

NEWS ITEMS

MACON MEDICAL SOCIETY of Bibb County met at Ridley Hall, Macon, on May 3rd. The scientific program consisted of reports of clinical cases. Delegates to the Augusta session of the Medical Association of Georgia made a report on the proceedings of the House of Delegates.

THE WARE COUNTY MEDICAL SOCIETY met the Phoenix Hotel, Waycross, on May 4th. Dr. H. A. Seaman and Dr. C. A. Witmer entertained the members at dinner. Dr. J. R. Gay, Homerville, read a paper entitled, *Some Things About Tetanus*.

DR. HARRY VAUGHN announces the opening of an office at 464 Wabash Avenue, between North Boulevard and Parkway Drive.

THE REGULAR STAFF MEETING of Emory University Hospital, Emory University, was held on May 2nd. Dr. Frank K. Boland reported cases of *Gunshot Wound of the Abdomen and Cancer of the Cervix with Bilateral Hydronephrosis*; Dr. Ed. Fincher, *Berger's Disease*; Dr. M. K. Bailey and Dr. Chas. Eberhart, *Aneurysm Renal Artery*.

THE RANDOLPH COUNTY MEDICAL SOCIETY met at the Patterson Hospital, Cuthbert, on April 7th. Dr. W. G. Elliott, Cuthbert, read a paper entitled *Hysterectomies*.

THE EIGHTH DISTRICT MEDICAL SOCIETY met at Waycross on April 12th. Dr. R. L. Johnson, Waycross, read a paper on *Malignancies of Sigmoid and Rectum*; Dr. A. G. Fort and Dr. Lester A. Brown, Atlanta, showed a motion picture which demonstrated a *Radical Mastoid Operation with Skin Graft*; Dr. H. M. Branham, Brunswick, made a report on *Fifty Years in the Practice of Medicine in Southeast Georgia*; Dr. H. W. Clements, Adel, read a paper entitled, *Some Suggestions for the Prevention and Treatment of Eclampsia*; Address by Dr. Geo. A. Traylor, Augusta, president of the Association; *Ovarian Hyperfunction* by Dr. H. J. Goodwin, Douglas; *Rural Practice* by Dr. Grady N. Coker, Canton, president-elect of the Association; *Some Features of Deep X-Ray Therapy* by Dr. D. M. Bradley, Waycross. The members were guests of the Ware County Medical Society at dinner at the Phoenix Hotel. The semi-annual clinic of the Ware County Hospital was held by its staff from 10:00 to 12:00 A. M. on the same day.

DR. A. WORTH HOBBS, Atlanta, spoke at the Palmetto High School auditorium, April 22nd, on *Early Diagnosis of Tuberculosis*.

THE WALKER-CATOOSA COUNTY MEDICAL SOCIETY met at the office of Dr. Fred Simonton, Chickamauga, April 11th. Dr. Frank L. O'Connor, Fort Oglethorpe, read a paper on the *Treatment of Syphilis*. The society will hold its May meeting at the office of Dr. B. C. Hale, Rossville.

DR. ABE J. DAVIS, Waynesboro, was elected president of the recently organized Southeast Georgia Public Health Association. He is Burke County Commissioner of Health.

DR. JAMES E. PAULLIN, Atlanta, was elected a member of the Board of Regents of the American College of Physicians at a recent meeting held in New York City.

THE JACKSON-BARROW COUNTIES MEDICAL SOCIETY met at the Harrison Hotel, Jefferson, April 4th. Dr. O. C. Pittman, Commerce, spoke on *Allergic Diseases*.

THE SEVENTH DISTRICT MEDICAL SOCIETY met at Cartersville on April 6th. The Society was organized thirty years ago and of the thirty-two physicians who were charter members only eleven survive, nine of whom attended the Cartersville meeting were: Dr. Ross P. Cox, Rome; Dr. J. H. Hammond, LaFayette; Dr. H. L. Erwin, Dalton; Dr. Joe P. Bowdoin, Adairsville and Atlanta; Dr. R. M. Harbin, Rome; Dr. J. N. Cheney, Silver Creek; Dr. Robert E. Adair, Cartersville; Dr. J. L. Garrard, Rome, and Dr. A. C. Shamblin, Cartersville. Atlanta physicians who attended the meeting were: Dr. Edgar D. Shanks, Secretary-Treasurer of the Association; Dr. C. C. Aven, Dr. Marvin Mitchell, Dr. C. M. West and Dr. Crawford Barnett.

THE GEORGIA MEDICAL SOCIETY, Savannah, held a called meeting on May 3rd. Dr. Adolph Jacoby, assistant director of social hygiene of the New York State Health Department, spoke on *The Venereal Disease Program in Metropolitan Areas*.

THE JEFFERSON COUNTY MEDICAL SOCIETY held its April meeting in the office of Dr. S. T. R. Revell, Louisville. The scientific program consisted of a discussion of case reports, and a report by the Jefferson County Commissioner of Health on the recent tuberculosis clinic.

DR. J. E. LESTER, Marietta, spoke before a meeting of the Business Girls Club in Marietta on April 15th.

DR. WM. PERRIN NICOLSON, JR., Atlanta, has been installed as president of the Fifth District Chapter of the Reserve Officers' Association at a recent meeting held at the Georgia School of Technology.

DR. PHILIP H. NIPPERT, Atlanta, spoke on *Various Types of Skin Cancer* before a meeting of the Spalding County Medical Society held at the Strickland & Son Memorial Hospital, Griffin, April 19th.

DR. THOS. B. MILLER, Richland, born in 1853, graduated from the University of Georgia School of Medicine in 1875, is the subject of the following comment in the Lumpkin, Georgia, Stewart-Webster Journal, April 21, 1938, as follows: "Dr. T. B.

Miller, one of Richland's pioneer citizens and physicians, mailed his check this week to pay his fifty-eighth annual dues to the Medical Association of Georgia. He has been actively engaged in the practice of medicine these fifty-eight years, most of the time in Stewart county, and is probably one of the oldest members of the Association."

THE GEORGIA MEDICAL SOCIETY, Savannah, held its regular meeting on April 12th. Dr. John W. Brittingham, Augusta, read a paper entitled, *The Clinical Interpretation of the Wassermann Reaction*; discussion was led by Dr. Lee Howard and Dr. L. W. Shaw, Savannah. Dr. S. Elliott Wilson, Savannah, reported a case, *Ureteral Obstruction—Operative Findings*.

THE MONTHLY STAFF MEETING of St. Joseph's Infirmary, Atlanta, was held on April 26th. Dr. B. McH. Cline reported a case, *Intractable Asthma of Long Standing Relieved by Bronchoscopy*; I. T. Hyatt, D.D.S., *Local Anesthesia in Dentistry and Preliminary Report on Monacaine Hydrochloride*.

THE STAFF MEETING of Grady Hospital, Atlanta, was held on April 12th. Dr. W. R. Glenn reported a case, *Brachial Plexus Anesthetic*; Dr. Richard B. Wilson and Dr. W. B. Matthews, *Hiccough*; Dr. J. C. Read and C. W. Strickler, Jr., *Ruptured Peptic Ulcer with Complications*.

THE STAFF MEETING of the Georgia Baptist Hospital, Atlanta, was held on April 19th. Members who made case reports were: Dr. C. W. Roberts, Dr. J. G. McDaniel, Dr. B. T. Beasley and Dr. A. M. Dimmock.

DR. HAROLD BOWCOCK announces the opening of his office at 607 Doctors Building, 478 Peachtree Street, N. E., Atlanta.

DR. ALFRED A. WEINSTEIN announces the opening of offices in Suite 215 Doctors Building, 478 Peachtree Street, N. E., Atlanta, for the practice of medicine and surgery.

DR. MURDOCK EQUEN, Atlanta, was elected a member of the Governing Board of the American Bronchoscopic Society for a term of two years at a recent meeting held in Atlantic City.

THE STAFF MEETING of the Georgia Baptists Hospital, Atlanta, was held on May 10th. Dr. Geo. Fuller reported two cases of *Gas Infection Treated with Sulfanilamide*; Dr. David T. Carr, *Use of Placental Blood for Transfusions*; Dr. C. E. Rushin, *Unusual Cases of Varicose Ulcers*.

THE RANDOLPH COUNTY MEDICAL SOCIETY met at the Patterson Hospital, Cuthbert, May 5th.

THE GEORGIA MEDICAL SOCIETY, Savannah, met on May 10th. Dr. J. C. Metts read a paper entitled, *Hereditary Cerebellar Ataxia*. The discussion was led by Dr. L. J. Hahne, Dr. J. R. Broderick and Dr. R. F. Slaughter.

DR. JAS. L. CAMPBELL, Atlanta, chairman of the Cancer Commission of the Association, conducted a clinic for the diagnosis and discussion of the treatment of cancer at the Ware County Hospital, Waycross, on April 12.

OBITUARY

Dr. Ralston Lattimore, Savannah; member; Columbia University College of Physicians and Surgeons, New York, N. Y., 1893; aged 67; died at his home after a long illness on April 20, 1938. He was a native of Savannah. For three years after he graduated in medicine he served as house physician at Mount Sinai Hospital in New York, then for a year he was active physician at the Sloan Maternity Hospital; later he took special postgraduate work in Berlin and Vienna. Then Dr. Lattimore began the active practice of medicine in Savannah and was in charge of the Park View Sanitarium; later he became associated on the staff of St. Joseph's Hospital and for a number of years served as chairman of the Executive Board. Dr. Lattimore has been associated with organized medicine and held many honorary offices. He was a member of the Georgia Medical Society, Southern Medical Association, American College of Physicians, American College of Surgeons, American Medical Association and St. John's Episcopal church; one time president of the Georgia Medical Society, vice-president of the Medical Association of Georgia, and president of the Association in 1913-14. Surviving him are his widow, one daughter, Miss Edna Eppes Lattimore; two sons, William and Harry Lattimore. Rev. Ernest Risley conducted the funeral services from the St. John's Episcopal church. Interment was in Bonaventure cemetery.

Dr. John A. Rhodes, Crawfordsville; member; University of Georgia School of Medicine, Augusta, 1887; aged 75; died of heart disease at his home on April 9, 1938. He was a native of Taliaferro county and while handicapped in many ways in early manhood in his efforts to secure an education, he went forward with that forceful determination which characterized his efforts throughout life. Dr. Rhodes served on the State Board of Health for a number of years. He was a loyal member of the Medical Association of Georgia and contributed liberally to the Public Relations Bureau. Surviving him are his widow; three sisters: Mrs. Ella Fouche, Macon; Mrs. Stella Lavender, Crawfordsville; Mrs. Burma Cox, Washington. Rev. G. C. Steed and Rev. H. R. Miller officiated at the services conducted at the graveside. Burial was in the city cemetery.

Dr. Thomas D. Fussell, Rhine; member; Hospital Medical College, Atlanta, 1911; aged 57; died on his way from home to a private hospital at Eastman on April 14, 1938. He was a native of Telfair county and a member of a prominent family, many of whom were practicing physicians. Dr. Fussell had many acquaintances who held him in high esteem. He was a member of the Shrine and Sharon church. Surviving him are his widow, two daughters, Misses Margaret and Mary Ethel Fussell; one son, Thomas Fussell; his father, T. F. Fussell; one brother, Dr. J. K. Fussell, Rhine; two sisters, Mrs. W. A. McRae and Miss Josie Fussell. Rev. Pitts and Rev. C. L. Wall officiated at the funeral services conducted from Sharon church.

Dr. William Henry Baxley, Jr., Hephzibah; University of Georgia School of Medicine, Augusta, 1887;

aged 74; died at his home on April 23, 1938. He was a native of Burke county but had spent most of his life at Hephzibah and had practiced medicine there for more than thirty years. Dr. Baxley was a member of the Hephzibah Methodist church. He was one of the State's best citizens and was loved by hundreds of acquaintances. Surviving him are his widow, three sons, Dr. W. W. Baxley, Porterdale; Dr. Harry B. Baxley, Blakely; Dr. Warren Baxley, Macon; one daughter, Miss Margaret Baxley, Macon. Rev. Hamrick officiated at services conducted at the graveside. Burial was in Hephzibah cemetery.

Dr. Charles C. Echols, Canon; University of Georgia School of Medicine, Augusta, 1900; aged 67; died at his home on April 15, 1938. He was a native of Franklin county and was a member of a family which had been prominent there for 150 years. He had practiced at Canon for more than twenty years. He was a member of the Masonic Lodge and Presbyterian church. Surviving him are his widow, four daughters: Mrs. J. L. Chaney and Mrs. Fogarty, Sarasota, Florida; Mrs. C. H. Bowers and Miss Madge Echols, Canon. Funeral services were held at the Canon Methodist church. Rev. J. L. Russell and Rev. Coffman officiated. Burial was in the churchyard.

Dr. James William Roberts, Atlanta; member; Atlanta College of Physicians and Surgeons, Atlanta, 1913; aged 52; died in a private hospital in Atlanta after several weeks' illness on May 4, 1938. He was a native of Elbert County. Dr. Roberts received his collegiate education at Emory University in 1909 while located at Oxford, Ga. After he graduated in medicine, he served his internship in Grady Hospital, Atlanta. Later he took post-graduate work in hospitals at St. Louis, Mo., and at Mayo's Clinic, Rochester, Minn. He began the private practice of surgery in Atlanta in 1915, served on the staffs of Emory University Hospital and Crawford W. Long Memorial Hospital. Dr. Roberts served two years as Captain in the Medical Corps of the United States Army during the World War, was with the Emory University unit and located at the Base Hospital No. 43 in France. He was Assistant Professor of Clinical Surgery at Emory University School of Medicine for a number of years. His practice was limited to surgery and he had gained an enviable reputation. He was a member of the Fulton County Medical Society and the Methodist church. Surviving him are his widow, three brothers, Dr. Stewart R. Roberts, Atlanta; Charles E. and Warren Roberts, both of Macon; one sister, Mrs. Thomas L. Ross, Macon. Dr. Nat Long officiated at services conducted at Oxford, Ga. Burial was in Oxford cemetery. Pallbearers were: Doctors Frank K. Boland, Spencer A. Kirkland, Vernon E. Powell, Trimble Johnson, Edgar D. Shanks, H. C. Sauls and Herschel Crawford, all of Atlanta; Dr. J. C. Patterson, Cuthbert; Dr. L. G. Garrett, Austell, and Dr. C. F. Holton, Savannah.

The Medical Association of Georgia will hold its ninetyeth annual session in Atlanta, May 9-12, 1939. Titles for papers to appear on the program may be submitted to the chairman of the Committee on Scientific Work or to the Secretary-Treasurer.

RESOLUTIONS ON THE DEATH OF MAJOR L. B. BIBB

On March 13, 1938, Major Lewis B. Bibb, Medical Corps, U. S. Army, died from injuries received the previous day in an automobile accident in North Carolina.

In his death the profession has lost a valued member and sincere friend.

Major Bibb was born in Bell Mina, Alabama, on January 18, 1882. He received his M.D. degree from the University of Texas in 1908 and his A.B. degree from the same institution in 1912.

On December 10, 1912, he was married to Miss Marion Almy Robinson in Austin, Texas. To them were born one son and three daughters. He is survived by Mrs. Bibb and the four children.

In July, 1918, Dr. Bibb was commissioned as first lieutenant in the Medical Reserve Corps. Following his service in the World War he was commissioned first lieutenant Medical Corps of the Regular Army on July 1, 1920, and promoted to the grade of Captain, August 2, 1921.

He was graduated as Medalist in 1923 from the Medical Field Service School and in 1924 he was honor graduate from the Army Medical School.

Before entering the Regular Army he was instructor for some time at Columbia University Medical School.

He was the author of several books and scientific papers, among them being: "First Book of Health" and "The Human Body and Its Enemies." He contributed articles to the Journal of Bacteriology, The Military Surgeon, and other scientific publications. He was profoundly interested in bacteriology and his knowledge of the subject was broad and well-grounded. Information concerning some of his explorations in the field of experimental medicine is unknown except to a few of his intimate friends.

At the time of his death he was on duty at Headquarters, Fourth Corps Area, as Instructor for the Medical Units of the Thirtieth Division, National Guard.

Major Bibb was a Southern gentleman of the old school. He came of good Alabama stock and appreciated his heritage. He as a genealogist of no mean ability and his knowledge of Confederate Army history was intimate and accurate.

He became affiliated with the Fulton County Medical Society as an associate member soon after arriving in Atlanta to assume his duties with the Fourth Corps Area.

To know him was to love and admire him for he was a true and sincere friend. We shall all miss him—his cheerful and genteel manner. His wise counsel as an instructor in the military establishment will be a cherished memory. In his passing the Fulton County Medical Society has lost a valued and loyal member and the Medical Corps of the Army has lost an officer whose place it will be hard to fill.

Therefore, be it resolved: That a copy of these resolutions be spread upon the minutes of the Fulton County Medical Society, a copy be sent to the Medical Association of Georgia, a copy to Headquarters, Fourth Corps Area, U. S. Army, and a copy to his family.

EDGAR H. GREENE, M.D., *Chairman*
FRED F. RUDDER, M.D.
THOS. P. GOODWYN, M.D.
Committee.

Brucella melitensis, originally known as *Micrococcus melitensis*, is pleomorphic, its morphology in part determined by the culture medium or the preparation used for its study. Morphologically it is considered variously by several authors on bacteriology to be a coccus, a bacillus or a coccobacillus. On this basis, with the effect of the drug in question established against certain other pathogenic bacterial forms, ROBERT L. STERN and KEN W. BLAKE, Los Angeles (*Journal A. M. A.*, May 7, 1938), working independently, gave sulfanilamide in therapeutic doses to each of three private patients suffering from clinically and serologically established undulant fever. Highly satisfactory and prompt results with clinical cure followed. The maximal dosage according to present standards appears to be necessary.

EMORY MEDICAL ALUMNI CLINICS MAY 31 TO JUNE 3, 1938

A. M.

8:00-10:00—Registration at College Bldg., Armstrong and Butler Sts.

TUESDAY, MAY 31

Grady Hospital White Unit.

Surgical Clinics. Drs. J. G. Riley, Lynn Fort and Wadley Glenn.

Grady Hospital Colored Unit.

Surgical Clinic. Dr. I. A. Ferguson.

8:30- 9:00—Recent Advances in Gastro-enterology. Dr. Crawford Barnett.

9:00- 9:30—Management of Compound Fractures. Dr. Jos. Boland.

9:30-10:00—Infections of the Cervix. Dr. Shelley Davis.

10:00-10:30—Factors Influencing the Mortality in Gallbladder Disease. Drs. Lon Grove and K. R. Bell.

10:30-11:00—The Relative Values of Luetic Drugs in the Treatment of Syphilis. Dr. Jos. Yampolsky.

11:00-11:30—Pyogenic Dermatoses. Dr. Cosby Swanson.

11:30-12:00—Diagnosis of Some Blood Diseases. Dr. A. H. Bunce.

P. M.

12:00-12:30—Evaluation of the New Methods in the Treatment of Burns. Dr. J. D. Martin.

12:30- 1:00—Home and Office Treatment of Heart Failure. Dr. R. H. Oppenheimer.

2:00- 2:30—Dr. Howard Hailey Presiding.
Treatment of Birth Marks. Drs. Howard Hailey and Hugh Hailey.

2:30- 3:00—Treatment of Syphilis. New Phases. Dr. Ross Brown.

3:00- 3:30—Combined Sulfanilamide and Local Therapy in the Treatment of Gonorrhoeal Infections. Dr. S. J. Sinkoe.

3:30- 4:00—Fractures of the Ankle. Drs. Thos. P. Goodwyn and H. W. Jernigan.

4:00- 4:30—Local Anesthesia in Tonsillectomy.
Improved Method. Moving Pictures.
Dr. Murdock Eguen.

WEDNESDAY, JUNE 1
Grady Hospital White Unit

A. M.

8:00-10:00—Surgical Clinics. Drs. George W. Fuller, D. H. Poer, and J. H. York.
Rectal Surgical Clinic. Dr. Marion C. Pruitt.
Lecture Room. Dr. F. K. Boland, Sr., Presiding.

8:30- 9:00—Decompression Therapy in Pulmonary Tuberculosis. Dr. C. C. Garver.

9:00- 9:30—Syphilis of the Nervous System. Dr. R. B. Wilson.

9:30-10:00—Conservative Management of Female Pelvic Disorders. Dr. B. T. Beasley.

10:00-10:30—Treatment of Varicose Veins and Ulcers. Kondelon Operation. Moving Pictures. Dr. C. E. Rushin.

10:30-11:00—Recent Progress in the Treatment of Pneumonia. Dr. C. C. Aven.

11:00-11:30—Advances Made in Handling Industrial Cases in the Past 17 Years. Dr. R. E. Newberry.

11:30-12:00—Diverticulosis of the Colon. Dr. M. S. Dougherty.

P. M.

12:00-12:30—Post-operative Treatment. Dr. F. K. Boland, Sr.

12:30- 1:00—Medical Clinic. Dr. C. W. Strickler, Sr.

2:00 —Dr. R. H. Oppenheimer Presiding.
Infections of the Prostate and Seminal Vesicles. Dr. S. A. Kirkland.

2:30- 3:00—Cancer of the Body of the Uterus. Dr. J. F. Denton.

3:00- 3:30—Treatment of Acute Nephritis. Dr. C. W. Strickler, Jr.

3:30- 4:00—Recent Advancements in the Development and Treatment of Sciatica. Drs. E. F. Fincher and Exum Walker.

4:00- 4:30—Therapeutic Principles in Pediatrics. Dr. C. D. Fowler.

THURSDAY, JUNE 2
Grady Hospital White Unit

A. M.

8:00-10:00—Gynecological Clinic. Dr. L. G. Baggett.

Grady Hospital Colored Unit.

Gynecological Clinic. Dr. W. R. Holmes.

Lecture Room. Dr. J. D. Martin Presiding.

8:30- 9:00—Pitfalls in Thyroid Surgery. Dr. C. W. Roberts.

9:00- 9:30—Duodenal Ulcer. Dr. J. B. Fitts.

9:30-10:00—Care of the Bladder after Operations. Dr. Kells Boland.

10:00-10:30—Diagnosis of the Anemias. Dr. R. R. Kracke.

10:30-11:00—Breast Tumors. Dr. W. A. Selman.

11:00-11:30—Epigastric Pain. Dr. R. S. Leadingham.

11:30-12:00—Renal Neoplasms Radiation. Dr. J. J. Clark.

P. M.

12:00-12:30—Postoperative Treatment in Retroperitoneal Surgery. Drs. M. K. Bailey and C. A. Eberhart.

12:30—Treatment of Cardiac Edema. Dr. Evert A. Bancker, Jr.

2:00—Lecture Room. Dr. J. R. McCord, Presiding.

2:00- 2:30—Heat in Urology. Simplified Apparatus. Drs. E. G. Ballenger, O. F. Elder, Harold P. McDonald and R. C. Coleman, Jr.
Obstetrical Symposium

(1) Chronic Vascular Disease as a Complication of Pregnancy. Dr. R. A. Bartholomew.

(2) Chronic Nephritis as a Complication of Pregnancy. Dr. E. D. Colvin.

(3) Preeclampsia and Eclampsia as a Complication of Pregnancy. Dr. C. B. Upshaw.

8:00 P. M.—Meeting at Fulton County Medical Society. 38 Prescott St., N. E.
Mortality in Appendicitis in the Southeast. Drs. T. C. Davison and F. F. Rudder.

Recent Advances in the Treatment of Diabetes with Protamine Zinc Insulin. Dr. J. E. Paullin.

Recent Trends in the Radiation Treatment of Cancer. Dr. Max Cutler, Chicago, Ill.

FRIDAY, JUNE 3

Lecture Room, Dr. Carter Smith Presiding.

A. M.

8:30- 9:00—Positive Diagnosis in Heart Disorders. Dr. L. M. Blackford.

9:00- 9:30—Cancer of the Stomach. Lantern Slides. Dr. J. W. Landham.

9:30-10:00—Peptic Ulcer. Dr. H. C. Sauls.

10:00-10:30—Gastro-coloptosis. Dr. A. M. Dimmock.

10:30-11:00—Chronic Leukorrhoea, with Special Reference to Trichomonas Vaginalis. Dr. E. H. Greene.

11:00-11:30—Cancer of the Buccal Cavity. Dr. J. L. Campbell.

11:30-12:00—Intravenous Use of Aminophyllin in the Treatment of Certain Types of Heart Disease and Bronchial Asthma. Dr. Carter Smith.

P. M.

12:00- 1:00—Diagnostic Thyroid Clinic. Drs. D. H. Poer and T. S. Claiborne.

7:30 P. M.—Annual Banquet, Henry Grady Hotel. Dr. W. A. Selman, President, Toastmaster. Alumni Speaker, Dr. Oscar Miller, Charlotte, N. C.

SUMMER DIARRHEA IN BABIES

Casce (calcium caseinate), which is almost wholly a combination of protein and calcium, offers a quickly effective method of treating all types of diarrhea, both in bottle-fed and breast-fed infants. For the former, the carbohydrate is temporarily omitted from the 24-hour formula and replaced with 8 level tablespoonfuls of Casce. Within a day or two the diarrhea will usually be arrested, and carbohydrate in the form of Dextro-Maltose may safely be added to the formula and the Casce gradually eliminated. Three to six teaspoonfuls of a thin paste of Casce and water, given before each nursing, is well indicated for loose stools in breast-fed babies. Please send for samples to Mead Johnson & Company, Evansville, Indiana.

SIMPLIFIED ANALGESIA IN UROLOGY

Joseph E. F. Laibe (Assoc. Clin. Prof. of Urol., Loyola Univ. School of Med., Chicago.) *Ill. Med. Jour.*, 73:224 (March) 1938.

The analgesic state should be deep enough to allow the surgeon to carry on the operation, but, when practical, less of the anesthetic or analgesic should be used to at least partly eliminate some of the operative risk. A dose of 1/32 to 1/20 grain Dilaudid plus 1/150 to 1/100 grain scopolamine given about one-half an hour before cystoscopy has been found to produce a satisfactory analgesic effect with adequate relief of pain within a shorter time than with morphine. In general, this combination holds these patients so well that other analgesics are not required. Patients weighing 120 pounds or less are given the smaller doses while the larger amounts are reserved for larger patients.

For major surgery, Dilaudid, 1/20 grain, and atropine, 1/150 to 1/100 grain are given about forty-five minutes before the operation, which is usually done under ethylene or nitrous oxide. In general, Laibe found Dilaudid a satisfactory opiate for pre- or post-operative use, as well as in such conditions as renal colic, bladder spasm, etc. In concluding his report he states:

"1. Adequate analgesia for cystoscopies is often obtained by using morphine, grain 1/6 to 1/4, or Dilaudid, grain 1/32 to 1/20, with scopolamine, grain 1/150 to 1/100, depending on the weight and irritability of the patient. If such a procedure is used the risk of depression is not as great as when inhalation or spinal anesthesia are used.

"2. Dilaudid has proved to be a more satisfactory opiate than morphine for the relief of pain in cystoscopies or other surgical cases, in renal colic, tumors, etc., since there is practically no nausea or other evidence of stimulation accompanying its use, and there is less necessity for post-operative catheterization."

RABIES VACCINE

Heated, circulating air is the agent commonly used in desiccating animal tissues for medicinal use, but in preparing Rabies Vaccine, Lilly, rabies infected brain and spinal cord are dried under exactly opposite conditions—at freezing temperature within a vacuum. Nerve tissue when so treated can be finely pulverized and the contained fixed virus remains unmodified and fully potent even though the powder is stored for a number of years.



DR. BRAWNER'S SANITARIUM

SMYRNA, GEORGIA (Suburb of Atlanta)

FOR NERVOUS AND MENTAL DISORDERS, DRUG AND ALCOHOL ADDICTIONS

Approved diagnostic and therapeutic methods. Hydrotherapy. Electrotherapy, Massage, X-Ray and Laboratory. Special Department for General Invalids and Senile Cases at Monthly Rates.

JAMES N. BRAWNER, M.D. Medical Superintendent

ALBERT F. BRAWNER, M.D. Resident Superintendent

Active material of such uniformity and stability may be divided into exact units and a standardized treatment for every suspected rabies infection may be completed with only fourteen doses. Of all persons given preventive inoculations with Rabies Vaccine, Lilly, only 0.02 per cent have developed the disease.

PARKE, DAVIS & COMPANY ELECTS NEW PRESIDENT AND NEW FINANCE CHAIRMAN

Dr. A. William Lescoghier was elected President of Parke, Davis & Company, and Norman H. F. McLeod Chairman of the Finance Committee, at a meeting of the Company's Board of Directors held in Detroit on March 1. Both men have been actively connected with the Company for about thirty years. Dr. Lescoghier has been General Manager and a Director since 1929, and Mr. McLeod a member of the Board since 1921, and Secretary and Treasurer since 1923.

Dr. Lescoghier succeeds Oscar W. Smith, who had been President of the Company for sixteen years until his death on February 7 of this year. Dr. Lescoghier was born in Detroit, a few blocks from the laboratories of which he now becomes the chief executive. After graduating from high school he worked a year or two in the laboratories and then entered Detroit College of Medicine. In 1909, following his graduation from college, he became a member of the Parke-Davis Research Staff, giving special attention to biological problems. In 1918 he was named Assistant Director of the Research and Biological Laboratories, in which capacity he was in charge of the production of serums, vaccines, antitoxins, and other biological products. In 1925 he was made Director of the Department of Experimental Medicine, and in 1928 he was appointed to the position of Assistant-to-President. In 1929 he was elected General Manager, which position he has occupied since that time.

Mr. McLeod continues as Secretary and Treasurer of the Company, as well as a Director, in addition to his new post as Chairman of the Finance Committee. He was born in London, Ontario, and after graduating from high school embarked on a banking career, taking a position with the Canadian Bank of Commerce. Coming to Detroit in 1898, he became connected with the Detroit Stove Works, where he remained until 1906. In that year he joined Parke, Davis & Company as Traveling Auditor, and in this capacity he traveled all over the world visiting the many laboratories and branches of the Company. In 1917 he was appointed Chief Auditor. In 1921 he was elected to the position of Treasurer and made a member of the Board of Directors. In 1923 he was made Secretary and Treasurer of the Company.

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REFERENCES

While making no therapeutic claims, we offer the following references to the literature for the attention of physicians:

1. "Treatment of Human Pellagra with Nicotinic Acid."—Fouts, Holmes, Lepovsky and Jukes; Proc. Soc. Exper. Biol. & Med. 37:405 (Nov.) 1937.
2. "Relation of Nicotinic Acid and Nicotinic Amide to 'Canine Blacktongue.'"—Elvehjem, Madden, Strong and Wooley, Jrl. Amer. Chem. Soc. 59:1767 (Sept.) 1937.
3. "Therapeutic Administration of Nicotinic Acid in Human Beings During Health and Disease."—Spies, Cooper and Blankenhorn. (Read before the Central Society for Clinical Research, Chicago—Nov. 1937—To be published.)
4. "Nicotinic Acid and the Pellagra Preventing ('P-P') Vitamin"—Harris; Chem. & Ind.: 56:1134; (Dec.) 1937.
5. "Pellagra Successfully Treated with Nicotinic Acid—A Case Report"—Smith, D. T., M.D.; Ruffin, Julian M., M.D., and Smith, Susan Cower, M.A.; Jrl. A.M.A. 109:2054; (Dec. 18) 1937.
6. "Nicotinic Acid and Vitamin B2."—Dann, W. J.; Science 86:616; (Dec. 31) 1937.
7. "Pellagra and Nicotinic Acid." An editorial—Jrl. A.M.A. 110:289; (Jan. 22) 1938.
8. "Relation of Nicotinic Acid to Human Pellagra," an editorial—Jrl. A.M.A. 109:1203; (Oct. 9) 1937.
9. "The Use of Nicotinic Acid in the Treatment of Pellagra"—Spies, Cooper and Blankenhorn; Jrl. A.M.A. 110:622:1938 (Feb. 26) 1938.
10. "Advances in the Treatment of Pellagra"—Editorial, Annals of Internal Medicine, 11:1760 (March) 1938.

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SULFANILAMIDE IN UROLOGY

MONTAGUE L. BOYD, M.D.
Atlanta

There is at present enough evidence available to show that sulfanilamide is a valuable drug in the treatment of certain infections. So that what interests us most in connection with sulfanilamide is to learn (a) how to use it most effectively, (b) in what conditions it is ineffective, and (c) how to prevent the production of any serious reactions. I think that I can offer some evidence concerning the use of sulfanilamide in urogenital infections which may be of value in discussing these points.

For the sake of brevity I shall illustrate the conclusions which I have reached, and which I present here, by reporting only one or, at the most, two cases from each group into which I have divided the cases treated.

My experience is with a series of sixty-five consecutive private patients, and it has convinced me that sulfanilamide is probably the most valuable drug available for the treatment of urogenital infection. One of the best illustrations I have of this is a case in which sulfanilamide cleared up a urinary tract infection which had resisted years of treatment and all worth trying urinary antiseptics.

Case 1. A man of 51 was treated for about two years without being cured of a chronic colon bacillus infection of both kidneys which was associated with some dilatation of the whole urinary tract and a chronic prostatitis and seminal vesiculitis. I then treated him for two and a half years with every available drug and procedure and although all evidence of urinary obstruction disappeared, his urine remained infected and the prostatitis and seminal vesiculitis continued. Dr. Hal Davison of Atlanta, his medical consultant, was unable to find any disease of importance except that in the genitourinary tract. Eight months ago a course of sulfanilamide cleared up the infection entirely and it has not recurred. And the activity of the prostatitis and seminal vesiculitis was stopped, and

with very little further treatment the inflammation has gradually subsided and the patient is now practically well.

Urinary Tract Infections

Among these sixty-five patients were three with a slight hydro-nephrosis of one kidney accompanied by kidney infection. Although the infections were resistant to other treatments, they disappeared after a course of sulfanilamide and have not recurred. (Vaughn, McDonald, Cooley.)

I have found that sulfanilamide cures a large percentage of urinary tract infections *provided there are no marked changes in the urinary tract which would tend to keep up the infection.* Of course, the same thing can be said, to a lesser degree, of menthenamine, acriflavine, mandelic acid, and the ketogenic diet. But in my experience sulfanilamide has, as I have said, succeeded in cases where these remedies have failed.

Not only have urinary tract infections with gonococci, streptococci, and colon bacilli been cured, but also some with staphylococci, which are presumably more resistant to sulfanilamide.

Sulfanilamide has failed to cure urinary tract infections in those patients (a) where an unrelieved urinary obstruction existed, (b) when fairly large bladder diverticulas were present, and (c) where there were kidney and ureteral stones. The patients having these conditions were nearly all improved more or less by the sulfanilamide, but none was cured. For illustration:

Case 2. H. A., a single man, 56, with a slight infection of both kidneys (colon bacillus), right and left ureters tight at their lower ends, chronic cystitis, a moderate enlargement of the prostate (which had been only partially relieved by transurethral resection at one of the larger U.S.A. clinics), and a quite marked prostatitis and seminal vesiculitis. He also had recurrent attacks of fever and general malaise. Treatment by massage, urethral dilatations, and urinary antiseptics improved the prostatitis and seminal vesiculitis without causing much change in the urinary obstruction. Then a course of 500 grains of sulfanilamide was started

12-14-37, and repeated beginning 2-14-38. Both times the purulent urine became quite clear, but pus and infection returned almost as soon as the sulfanilamide was stopped. After the first course the kidney infection recurred and routine urologic treatments were continued. After the second course the kidneys remained free from infection, and when the prostatitis and seminal vesiculitis have been sufficiently improved by treatment, and the remaining part of the prostate causing obstruction has been resected, I believe that it will be possible to eradicate the remaining infection.

The following patients were not cured by sulfanilamide: (a) two with fairly large diverticula, (b) several with bladder neck obstructions, (c) one with ureteral obstruction following ureterolithotomy, and (d) a good many with renal and ureteral calculi.

Prostatitis and Seminal Vesiculitis

I have been astonished to discover that several patients (R.C.B., V.C.M., J.H.G.) having subacute prostatitis, seminal vesiculitis, and one an epididymitis also, were cured by a single course of sulfanilamide, so that subsequently I could find no pus in the prostatic and seminal vesicular secretion. All of these patients had had a chronic prostatitis for a long time before the above mentioned exacerbation. The bacteria in each case were gram-negative bacilli, pretty surely colon bacilli.

However, a similar case (W.A.D.), where the patient had a prostatitis and an epididymitis but a staphylococcus infection, improved enormously under sulfanilamide, and three weeks from the beginning of the acute attack there was almost no pus in the prostatic and seminal vesicular secretions where before there had been nothing but pus and bacteria. He then went to Florida to recuperate and returned in four weeks feeling well but with the prostate again full of pus. And so with several other patients who had active chronic prostatitis—some were promptly freed of prostatic pus, and others almost freed, but each time the pus reappeared within a few weeks. In many of these cases it is difficult to determine what organism is present, if any. The recurrence may be due to the type of organism (W.A.D. above had a staphylococcus infection) or to some other cause which I have failed to find, although the patients have all been freed as thoroughly as possible from local and systemic causes for the persistence of prostatitis and seminal vesiculitis.

Treatment of Gonorrheal Urethritis

In treating gonorrheal urethritis with sulfanilamide my experience brings out four things: (1) In some cases the growth of the bacteria is not controlled at all or very little by sulfanilamide alone. (2) In others the infection is only arrested and recurs after the sulfanilamide is stopped unless local treatment is continued. (3) Some cases seem to be cured completely by a course of sulfanilamide. (4) Practically every case of acute anterior gonorrheal urethritis is controlled and cured without complications where sulfanilamide and suitable local treatment are used.

Even if the percentage of complete cures of acute anterior gonorrheal urethritis by sulfanilamide alone was as high as 90 per cent, *I do not think that the omission of local treatment would be justified.* Colston and others have reported an evident cure with sulfanilamide alone of 60, 65, or 70 per cent of these cases, but I dare say that in general medical and urologic practice the percentage of infections controlled and later cured with sulfanilamide alone will be only 50 per cent or less.

There is no doubt but that local treatment is indicated and it should be started as soon as possible and continued until suitable tests have been made to insure the absence of persistent infection in the anterior urethral glands, or for that matter in any urethral glands. And when a posterior urethritis has occurred, examinations and tests must of course insure the absence of gonococci from the prostate and seminal vesicles and vasa as well as from the urethra.

Dosage

So far I have been prescribing 100 five grain tablets of sulfanilamide for a course of treatment, 60 grains a day for two days (10 grains every four hours night and day), and after that 30 grains a day (10 grains after each meal). My results with this dosage have been enormously satisfactory because I have obtained good results in *nearly all* the patients where I had expected success. I might perhaps have succeeded better in a few cases where I failed to eradicate the infection if I had given a larger dose, but I doubt it.

Then, too, I might have had better success in a few patients if I had continued the course

of treatment beyond the 100 tablets (14 days). But with the lack of more available knowledge about the harmful results produced by sulfanilamide, I have been satisfied to be conservative.

Of course, sodium bicarbonate should always be given with sulfanilamide. There is less tendency to forget the soda if they take it with the sulfanilamide—a fourth or a third of a teaspoonful in water. Ten grains of soda with ten grains of sulfanilamide may be enough, but twenty grains of soda is not too much, and there is no good reason for troublesome accuracy about the measurement of the dose of soda.

Unfavorable Reactions

I have had two cases where nausea and vomiting occurred, one within two days after starting the drug, and he could not continue it; the other after nine days of sulfanilamide, but he was able to start taking it again a day later and finish the 100 tablets.

Four patients felt so badly that they had to quit the drug, one in four days, one in five, one in seven, and one in nine days. None of these showed any changes in the blood count or hemoglobin estimation nor other evidences of injury; the depression and general malaise were too much for them to tolerate.

Three patients had macular skin eruption over the face and body after seven to nine days of treatment. None of the eruptions was severe, and they all cleared up as the treatment was stopped.

Two patients had rather violent reddening of the face and hands with some, but much less, reddening of the skin covered by the clothing. Neither patient had had any unusual exposure to sunlight. In both cases the reddening appeared about the tenth day. In one of these patients I started the sulfanilamide again after three weeks (10 grains every four hours), and in twelve hours the face and hands were so violently red that I stopped the drug. About four weeks later he had a marked gastro-intestinal upset, a blood pressure of 185, and a two plus albumen in the urine, but I am rather sure that these conditions were not produced by the sulfanilamide. There were no changes worth mentioning in the blood in either of these patients during or after taking the sulfanilamide.

Three patients had fairly high fever, and one patient 101 F. on the second day which, however, subsided without the drug being discontinued. The other patients had fever as high as 105 F. and 106 F., one beginning about the eighth, the other about the tenth day. In both instances when the drug was stopped the fever gradually disappeared within three or four days, and in neither was there any abnormality of the red or white cell blood counts.

One of these patients, after a few days, had a recurrence of an anterior gonorrheal urethritis (and which then, by the way, was more than usually difficult to control with local treatment) although he had had some local treatment from the time he came to me which was four or five days after the discharge began. Another course of sulfanilamide was begun three weeks after the first course was stopped (10 grains every four hours) and within twelve hours his temperature was 102.5 F.

Two patients with gonorrheal urethritis who were treated with large doses of sulfanilamide derived little if any benefit from the drug, and with the advancing infection developed epididymitis. Their gonorrheal infection was cured by fever therapy and local treatments.

It has been suggested that fever therapy be carried out while the patients are being treated with sulfanilamide. I do not see how we can be sure that this will be a safe procedure until we know more about the production of fever by sulfanilamide. The two patients of mine having temperatures of 105 and 106 developed the fever while taking 30 grains of sulfanilamide, and not until the second week of the course of treatment. Perhaps, there is no danger in the combined treatments, but I think we should proceed very cautiously with such a plan.

In only one case was there any evidence of marked effect upon the red blood cells, a man, 59, with an active colon bacillus infection of his bladder and prostate. In four days the red blood cells were 3,900,000 instead of 5,150,000, the hemoglobin 11.5 Gm. instead of 14.5 Gm.; the white blood cells had increased from 7,500 to 14,700. During this period he took 60 grains of sulfanilamide a day (three days). The drug was stopped for

twenty-four hours and then continued with 30 grains daily without evidence of further trouble.

I have only tried sulfanilamide on one patient with really poor kidney function, a man 72, married a second time about a year ago. For seven or eight years he has had a persistent kidney infection on both sides. Although during that time there had existed a good deal of dilatation of both ureters and a low kidney function (10 to 15 per cent phthalein in 30 minutes after an intravenous injection), he has remained well and remarkably vigorous. A few months ago the odor of the urine became more unpleasant and he had a chill and some fever.

The table below shows what occurred when he was given sulfanilamide:

| Date | Sulfanilamide | R.B.C. | W.B.C. | Hb. | Creat | N.P.N. | U.N. | Sugar | Chlor. |
|---------|----------------------------------------|-----------|--------|-------|-------|--------|------|-------|--------|
| 2-22-38 | | 4,750,000 | 9,100 | 14.75 | | | | | |
| 2-24-38 | Grs. x q 4 h. at 1 p.m. | | | | 1.4 | 41.7 | 28.6 | 101.5 | 491.12 |
| 2-25-38 | Stopped at 5 p.m. | | | | 2.1 | 53.8 | 26 | 89.5 | 495.5 |
| 2-26-38 | Began grs. x q 6 h., 8 a.m. | | | | 2.2 | 52.9 | | | |
| 2-27-38 | Grs. x q 6 h. | 4,700,000 | 8,900 | 14.75 | 2.2 | 52.7 | 25.1 | 93.3 | 505.05 |
| 3-1-38 | Grs. x q 6 h. | 4,690,000 | 12,150 | 14. | 1.83 | 42.17 | | | |
| 3-5-38 | Grs. x t.i.d. cont. since 3-1-38 | | | | 1.5 | 36.3 | | | |

It seems evident from the blood constituents that the larger doses (grs. 10 q 4 h.) caused an increase in the impairment of kidney function, but not the smaller doses. I, unfortunately, did not determine the blood and urine concentrations of the sulfanilamide during the time that the blood constituents were increased. On 60 grains a day he was dizzy and confused. This was less with 40 grains a day, but he was still very much confused at times and made a few mistakes in the identity of members of his family. On 30 grains a day the confusion and dizziness almost completely disappeared. There was not, I am afraid, much improvement in the urinary tract infection.

Conclusions

In my experience with sixty-five cases treated with sulfanilamide, I have concluded that it is perhaps the most effective drug we have for the treatment of urogenital infections. Its use is usually successful in curing urinary tract infections where there are no complications, such as stones, ureteral obstruc-

tions, bladder diverticula, bladder neck obstructions, marked prostatitis, and seminal vesiculitis, etc. Even some of the infections with staphylococci have been eradicated.

Some cases of subacute prostatitis and seminal vesiculitis have been cured by one course of treatment. Others have improved, but relapsed. The same thing is true of chronic prostatitis. I have not yet determined the reason for the failures in these cases.

Gonorrheal urethritis should by all means be treated with local medication as well as with sulfanilamide, and the urethral injections and other necessary treatments should be continued until examinations make sure the gonococci have been eradicated. The urethritis in a few cases is not controlled by sulfanilamide.

The complications have not been severe with a course of treatment of 60 grains a day for two days, then 30 grains a day for twelve days. They have soon disappeared on lessening the dose or stopping the sulfanilamide.

The production of fever to 105 and 106 F. with 30 grains a day of sulfanilamide makes it advisable to be very cautious about administering fever therapy while patients are being treated with this drug.

MARCUS H. HOBART, Evanston, Ill., and DONALD S. MILLER, Chicago (*Journal A. M. A.*, Oct. 3, 1936), state that the Orr method of treatment still remains the treatment of choice for osteomyelitis. Hematogenous osteomyelitis showed no great advancement of cures, whereas direct osteomyelitis responded well to direct, thorough, bone osteotomy under proper conditions. Extension osteomyelitis still remains a problem of the general surgeon and, with the proper treatment of infections, osteomyelitis should be reduced. Complications in this series were large. There were three cases of malignancy of soft tissue (2.6 per cent), two cases of toxic neuritis of the eighth nerve (1.9 per cent), two pathologic fractures (1.9 per cent) and one case of toxic encephalitis (0.96 per cent) in this series of 108 cases.

HYPOGLYCEMIC THERAPY OF SCHIZOPHRENIC PSYCHOSES*

Report of Cases

H. D. ALLEN, JR., M.D.
Milledgeville

Hypoglycemia induced with increasing doses of insulin as a treatment for dementia praecox (schizophrenia) was first reported by Manfred Sakel¹ and his co-worker Karl Theo Dussik (University of Vienna). The publication appeared in 1936, giving statistical results of 104 patients treated since Oct., 1933, several case reports, and outlined the procedure used. The procedure was divided into four phases, briefly translated* as follows:

Phase I. Fifteen to 30 units of insulin are given by intramuscular injection in the morning before breakfast and repeated once or twice daily at first, in increasing doses of 5 to 10 units, until an empirical shock dose is determined, each session lasting 4 hours and terminated by having the patient ingest 100-150 Gm. of carbohydrate, such as sugar.

Phase II. A daily shock dose of insulin with the patient allowed to remain in coma 1 to 1½ hours until remission ensues. Dry shock, epileptic-like convulsions, respiratory or cardiac disturbances indicates immediate need for breaking up the coma with carbohydrate, 150 Gm., given by nasal tube (glucose should be given intravenously). The shock dose varies from 20 to 250 units of insulin, and shock should appear in 45 minutes to 5 hours.

Phase III. Rest days should be observed every seventh day at first, and pause days should be taken if there are unfavorable physical reactions.

Phase IV. Diminishing dosage of insulin and the length of sessions, to stabilize the improvement or polarize the reestablished good association pathways.

Contraindications are acute tuberculosis, liver, kidney and heart impairment, and all febrile conditions.

The article mentioned the use of insulin in the treatment of morphinism leading to the determination of its value in schizophrenia. The resistance of long standing schizophrenics to large doses of insulin and a corresponding resistance to epinephrine were also mentioned. This article came to my attention through the report of Bernard Glueck,² of his three weeks' observation of the treatment while visiting in Munsengen, Switzerland. Later, Wortis³ reported his two months' observation in Sakel's Clinic. Still later, at a joint meeting of the Section on Neurology and Psychiatry of the New York Academy of Medicine and the New York Neurological Society, Jan. 12, 1937, papers were presented by Sakel,¹ Wortis,³ and Glueck,² which have been published with the discussions by Cheney, Ross, Cameron,

Jelliffe and Meyer. Wortis³ has also reviewed the uses of insulin in the treatment of psychoses previous to and concurrently with Sakel's work.

With Glueck's announcement, the Journal of the American Medical Association⁴ quickly carried a warning from the Educational Committee of the American Psychiatric Association as to the risks involved in carrying out such treatment.

Starting my first patient on this treatment in Nov., 1936, I have completed courses of treatment in 13 cases that approximate the procedure as outlined by Dussik and Sakel. I have, with few exceptions, limited my sessions to 4 hours and have perhaps been unduly apprehensive in seeing indications for breaking up the hypoglycemia before the 4 hours were up.

In order to study the resistance to insulin and epinephrine as shown by shifts in the blood sugar and plasma cholesterol, I have given several chronic patients insulin in grossly modified form to the Sakel procedure. Two patients who were classified involutional melancholia with extreme agitation and ideas of hopelessness and self-condemnation, but schizoid to the extent of somatic delusion (one with ideas of pregnancy and the other with ideas of syphilis), made no improvement with the treatment that was prolonged and to full shock stages. Both patients reacted with aggravation of the agitation during the hypoglycemia; one developed acute abdominal pain after several weeks of treatment that was probably kidney colic as there were pus cells and red blood cells in the urine.

Two chronic disturbed patients of the catatonic excitement type have been much improved from an institutional standpoint, one appearing to have a sustained improvement.

One patient, a catatonic stupor of 3 years' duration, has been improved to the extent of increasing alertness and is eating fairly regularly after 70 weeks of continuous nasal tube feeding. She began eating voluntarily with the initial dose of insulin. She was given 10 weeks' treatment, then 4 weeks' rest, and 3 weeks' treatment; and another course of treatment is planned after a rest of 1 month at home if it is not necessary to return her earlier for nasal tube feeding.

In three cases the treatment was discontinued by reason of removal of the patients from the hospital.

*Read before the Sixth District Medical Society, Milledgeville, June 30, 1938.

In one other patient, a sixteen-year-old girl, the improvement was so striking after 10 treatments, with no shock, the patient was discharged to an uncle who was most anxious that the experiment of rehabilitating her in school be made. Reports on her so far are favorable.

Case Reports

Case 1. White female, aged 27, single; occupation, secretary. Admitted June 13, 1936. Make-up: Very serious and efficient; many girl friends, no beau. Began work at 16 years of age and contributed support to aged father and mother. Had serious fall at 19, with injury to back; never strong or robust after this. During past year in nervous run-down condition, with increasing nervousness. Treated with insulin in general hospital to make her gain weight. Became antagonistic toward physician, feeling he was making her worse. It was then discovered that she had the notion that two men and a woman were spying on her, following her and plotting to make a white slave of her. She also spoke of feeling that she shook the street car when riding on it, so refused to ride on street cars.

Advised by attending physician to make complete change of surroundings, she visited relatives in another state where she stayed several months, with increasing development of the delusion that she was being sought by the "vice ring." This alarmed the relatives, who felt they could not keep her longer with them.

On admission to sanitarium she took readily to the idea that she would be protected and entered into the occupations and institutional diversions, but after a few weeks she began suspecting various members of the personnel of being associated with the vice ring and passing out information about her with signals, such as coughs, whistles, and motions—developing a most detailed systemization of her delusions and apparently getting pleasure out of detailing these ideas to the physician, but with increasing self-absorption and retirement from activities. The thought of going home was out of the question with her as it was quite impossible to ride the distance in a car with her family and feel that she was being pursued by the vice ring. Her family had received hopeless prognoses and were quite eager for any treatment that held hope. A benefactor who made private hospital care possible was discontinuing his aid in the current month.

Her treatment with insulin was started Nov. 16, with 20 units intramuscularly at 7 A. M., and she remained in bed and without food until 11 A. M. Then she was given four ounces of Karo corn syrup in orange juice. The insulin was increased 5 units each day with a seventh day rest, for 12 doses. Her response from the start was somnolence with profuse sweating. At no time were there muscular, respiratory or cardiac disturbances, and each time she could drink her carbohydrate meal voluntarily. Her interests and initiative increased from the first dose, and she named the treatment the "mind rest" treatment. She went for a long ride in an automobile without feeling she was being followed. Visited by her family at the end of two weeks' treatment, she rode with them in their car; on

previous visits she would not ride with them. A third weeks' treatment consisted of decreasing doses of insulin, and examinations of her insight both during hypoglycemic states and afterwards. She felt that she was not being bothered but would never admit that the vice ring had not existed. She was discharged Dec. 6, 1936, and has remained at home. She is keeping house for the family and looks after a senile father, allowing a married sister, the brother-in-law and mother all to go out for work. She has written to me several times, wanting to come back for more treatments as she cannot get up courage to ride alone on street cars.

Case 2. White female, aged 28; divorced, two children. Admitted June 19, 1935. Make-up: Mother and father divorced, both remarried. Patient was educated in finishing school and private tutors. Had been taught swimming, tennis, golf, horsemanship, voice and piano. At 16 years of age she was sent to Europe where she had four years of music, studying one year each in Germany, France, Italy, and Spain; married and had first baby while living in Spain. Has good conversational knowledge of four languages.

Onset of illness followed abortion (1931). Became extremely remorseful, sitting around and unable to do anything. Was on health farm two weeks but was removed and placed in sanitarium when she became hysterical, where she stayed until committed to a private hospital in New York, Mar. 18, 1932. During her stay in the hospital she was restless, noisy, exhibitionistic, with periods of abstraction, etc., and was classified dementia praecox, catatonic type, after an observation which lasted to Nov. 3, 1934. With discharge from the hospital the prognosis was: "Will do well for a time but may expect further trouble as still immature and unstable." The following winter she was able to remain in a nursing home in New York but following some erotic excursions she was admitted to the New York Neurological Institute in a highly excited state, requiring packs for sedation and control.

After coming to the sanitarium her excitement subsided but her mind was fixed largely on sexual ideas. Throughout the summer she practiced her music and singing, and entered well into the hospital diversions, helping with the music at church services and dances. With the opening of the college here, arrangements were made for her to take some special instruction in voice, piano and one literary subject. A visit from her mother resulted in efforts to place her in a Milledgeville home where she could more conveniently pursue her studies, but with resentment towards her mother's inquiries and plans and with other conflicts, she went into a most aggravated excitement that lasted from the middle of Dec., 1935 to May, 1936. She was obscene, profane, exhibitionistic and destructive and often wet packs for ten or more hours were required to quiet her.

During the summer she was again making a good institutional adjustment, and in Sept., she was allowed a two weeks' visit to her children and parents accompanied by a companion nurse. Returning to the sanitarium and continuing her usual adjustment, in Nov., she began to show excitement in all of its furor, alternating with periods of infantile behavior. Her mother

visited her and was anxious that anything be done to avoid another siege of attacks.

Treatment was begun Dec. 8 and the insulin dosage was increased from 20 to 130 units. Following the administration of doses she had some sweating but with complete recovery from the insulin effects before the 4 hours were up and the carbohydrate was given. With the large doses there were periods of excitement and screaming in the wildest manner, but after the carbohydrate meal she would become calm and well adjusted for the remainder of the day. After the twenty-first treatment, in which she was given 130 units of insulin in the morning, the usual carbohydrate meal near noon and another 150 units in the afternoon, there were equally severe excitements both times. The treatment was then terminated for a rest period and she continued to improve. A visit from her mother met with an initial antagonism but this passed over in about 2 hours, and the rest of the visit was very pleasant. The mother was willing to take her on a trip but the patient decided that she should take another course of treatment. The second course, from Feb. 15 to Mar. 7, consisted of 10 unit increases from 30 units, and 10 unit reductions the third week, with studies of insight. These reactions were somnolence with sweating. She spoke of a feeling of maturity, strengthening of her moral fibre, and confidence to control herself in the future. She was discharged Mar. 14, 1937. She is studying her music under a well recognized teacher and writes me that she expects to do some concert work this fall, and that her mother-in-law has agreed to her having some of the responsibility of her children. Both a friend and her mother have written me that the patient is now the person she showed promise of being at 18 years of age.

Case 3. White female, aged 17, single, college student. Admitted Oct. 1, 1936. Discharged Nov. 1, 1936. Readmitted Nov. 25, 1936; discharged Mar. 8, 1937. This patient developed an affective psychosis with a strong hysterical element and marked antagonism toward her mother. With very slight improvement after one month's stay in the sanitarium, her mother insisted on taking her home where she stayed 25 days and returned in a highly excited state with some flight of ideas, exhibitionism, and extreme mood swings. She reacted within the first week with profound shock which required termination by tube feeding, and several times there were muscular twitchings that portended a convulsive reaction. Her acute excitement subsided immediately but she continued in a mild hypomanic state, and after some increase in irritability and excitement she was given a second series of shocks. She continued to place the blame of all her troubles on her mother, speaking freely of knowing that she would be crazy again if she had to live at home. Finally, under the persuasion of her father she returned home where she has controlled herself sufficiently to remain there.

Case 4. White female, aged 28; divorced, no children. Admitted Sept. 11, 1936; discharged Mar. 12, 1937. Psychosis began 1931. Had been treated at private hospital in Maryland on three previous occasions; diagnosis dementia praecox with affective components, with prognosis good for remissions. Longest

period out of sanitarium since beginning in 1931 was one year. She was arrogant and dictatorial, and actively antagonistic toward her parents during remissions.

While in the hospital she continued abusive toward her parents and was given to frequent outbursts of anger in which she was assaultive, destructive, and profane. At other times, her best periods, she was haughty, arrogant, liking to express sexual and atheistic views, and accused her father of much mistreatment that seemed purely delusional. Her treatment was started Jan. 30, and continued to Mar. 2. Her shock dose was reached at 60 units of insulin and good shocks continued with decreasing doses. She gained 20 pounds in weight, became very agreeable and apologized to the nurses she had assaulted. She is now staying with a sister and reports from her father say that she is apparently well, but I have no details of her activity.

Case 5. White female, aged 32; married, two children. Admitted Mar. 1, 1937; discharged April 24, 1937. Make-up: Abandoned by father when very young and reared by relatives as her mother was unable to support the children. Always felt inferior to others. Purely paranoid symptoms toward husband from early after marriage. Onset: Became actively psychotic enroute to husband who had rented a home in a distant town where a change of employment had placed him. On the train she thought a woman was plotting to kidnap her children. She left the train in a large city, began preaching on the streets and finally was taken in charge by the police.

On admission she was extremely negative toward physician and nurses, constantly wanting to run out of the hospital; succeeding one time at dark and a five-hour search was required to locate her. Treatment started Mar. 15, 1937, with 20 units insulin, increasing 5 units each day, reaching a point of shock requiring gavage with the nasal tube in second week. Her active negativism subsided promptly. She became interested in handicrafts and reading, and interested another patient in her handiwork. Her treatment was terminated for a rest period at home, although she had no insight into past paranoid symptoms, speaking of the kidnapping as being a real menace and going into further paranoid ideas that had not been known to the husband during the onset; and would make no effort to rationalize her extremely aberrant conduct while enroute to her husband.

Case 6. White female, aged 21, single. Admitted Mar. 17, 1937; discharged May 13, 1937. Make-up: Much younger than the rest of her brothers and sisters, she had been sheltered and somewhat spoiled by her mother, talked with babyish lisp and was given to crushes on certain girl friends. Finished high school and took a business course but spent much time dwelling on theatric aspirations. Onset: After a Christmas party began claiming that an aunt tried to poison her with poisoned cigarettes. Accused aunt of being a dope fiend, and accused her of shooting poison gas in her room. Ran out of house in night clothes, jumped off porch and injured foot. She was not particularly unruly and was kept at home under the care of the local physician until admitted to this sanitarium.

On admission she was silly, facetious and given to laughing spells and tried to run away from the nurses at times; at other times she was absorbed in phantasies, making dramatic poses and referred to herself as Greta Garbo. Insulin treatment started March 30 after 13 days of observation that steadily portrayed her as a hebephrenic. Her reactions were profound from the start and never more than 30 units were required to produce shock. On one occasion a pronounced convulsive seizure required intravenous glucose after gavage with the nasal tube seemed too slow in relieving convulsive twitchings of the muscles. After carbohydrate meals she had prolonged sleep. Treatments, usually at 20 unit levels, were kept up until April 20, with single rest days each week; then 4 days' rest followed by 10 unit doses, to which she reacted most profoundly.

After the first treatment she discontinued her Garbo poses, began taking interest in reading, and some handiwork. She was agreeable and friendly, playing tennis and making some efforts to overcome her babyish talk. She spoke freely and with good insight, claiming her idea of being Garbo was most real to her, although she could see how silly it must have been. The promptness of severe insulin reactions prevented studies of insight during the hypoglycemic periods.

A report from her sister states that she is continuing well at home, that she had one sulking spell after being refused to go swimming and play tennis for a particular reason, but recovered from this in the course of the same afternoon.

Case 7. White female, aged 26, single; occupation, stenographer. Admitted April 6, 1937; discharged April 13, 1937. Readmitted April 16, 1937; discharged May 23, 1937. Make-up: Very quiet and reserved. Many girl friends, no beau. In Dec., 1936 had panophthalmia with removal of one eye (she learned the nature of the infection as gonorrheal, though no venereal relationship was ever established from repeated examinations).

With the removal of the eye she became very despondent and could not look at herself in the mirror. Fitted with a glass eye, she could not learn to take it out or put it back. She became very irritable, refused food and was restless at night, making several suicidal attempts with gas, and spoke of jumping in front of passing cars. On admission to the sanitarium her outstanding mental reactions were: refusal of food, crying and active negativism toward everything and everybody. Insulin treatment was determined upon immediately as a solution of her nutritional problems as well as an added excuse for the nursing care she would require on account of her suicidal determination.

Graduated doses of insulin were started at 20 units on April 8 and given for 5 days. She proved rather resistant to the insulin and the greatest response during this time was a child-like resentment toward being deprived of her breakfast when she was really hungry for it. During the afternoon she was docile, would go for walks, watch tennis games, read and did some handiwork. On being visited by her mother at the end of the week, and on the rest day, she became very emotional at first but quieted down soon with fair control

and began pleading with her mother to take her home, with promises that she could control herself. The mother gave in to her, taking her home and reporting that she seemed almost normal on the way home, and the first night, but the next day her most irritating refusal to do anything required of her returned as strongly as ever, and she was readmitted to the sanitarium on the fourth day. Treatment was resumed on the following day, shock being reached at 100 units and the shocks continuing on decreasing dosage. Her initiative and activities increased steadily which held over the rest periods. She spoke with a good insight of her mental experiences, and left the hospital to stay with her sister for convalescence away from her mother's uncontrollable anxiety and the association of home.

Case 8. White, female, aged 43; married, two children. Admitted April 15, 1937; discharged June 2, 1937. Make-up: Most pleasant, agreeable personality, liked everyone but was never given to any intimate friendships. Had been examined by a neurologist who found no evidence of a psychosis and later by an internist who believed she was definitely manic depressive, hypomanic type. She wanted to get a divorce from her husband as she felt their incompatibility kept her nervous and would ruin her health if she had to continue as his wife. She was a volunteer patient and willingly submitted to a study of her condition under insulin shock with the assurance it would make her gain weight and feel stronger. A study of her condition pointed to a paranoid state, associated with an acknowledged frigidity.

Her reactions to 20 units of insulin were profound from the start; 30 units requiring nasal feeding. There was complete amnesia in 2 hours. Reducing the dosage to 10 units produced extreme sweating and stupor within 1 hour and 25 minutes. She gained 12 pounds in weight, 90 to 107 pounds, in the 6 weeks' treatments, but she has held steadfast to her desire for a divorce which is now pending.

Comments

These eight case reports are presented to illustrate the wide variety of schizoid and schizophrenic reactions, with prompt resolution of the active phases of the psychoses after hypoglycemic shock; exception is made of Case 8, in whom there were little or no active psychotic components. Seven of the patients have returned home with as good or better prospects of domestic adjustments than could have been promised from spontaneous remissions.

Conclusions

1. Remissions of active psychotic symptoms of schizoid and schizophrenic reaction types are definitely associated with hypoglycemic shock when given according to the Sakel method.

2. In other psychotic states, especially the more chronic schizophrenic, this procedure

offers a large field of study to improve the approach of the physician toward the patient's institutional adjustments, as well as institutional management.

3. Such studies open an unlimited field of research in altered metabolism, and psychotherapeutic studies of insight.

4. It seems logical to assume that a promptly induced remission should be more lasting than spontaneous remissions following long drawn out institutional treatment with its dimming effect on previous normal associations.

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*Thanks are expressed to Mrs. Sidney McGee and Dr. Richard Lamar for aid in translation of No. 1 reference.

DISCUSSION ON PAPER OF DR. H. D. ALLEN, JR.

Dr. Jas. N. Brawner (Atlanta): I wish to congratulate Dr. Allen in pioneering the insulin treatment of dementia praecox in the Southern states. This morning Dr. Allen was kind enough to show me five or six patients undergoing the insulin treatment, demonstrating the different stages of somnolence and coma. My first impression was that the coma was not as deep as I expected to find. Some of the patients who were just beginning treatment talked fairly intelligently and they at least felt that something was being done for their benefit. Those in deep sleep could be aroused, would say a few words, but would immediately return to the state of somnolence. I also saw two or three patients who had completed the treatment. These patients were quite orderly in their conversation and behavior.

After my conversation with Dr. Allen relative to the treatment and seeing these patients, I feel that it should at least be given a thorough trial and I intend to commence using insulin in the treatment of my schizophrenic patients.

Dr. J. I. Garrard (Milledgeville): I wish to thank Dr. Allen for the work he is doing. He is a pioneer in our midst. We are not in position at present at the State Hospital to give insulin treatment to dementia praecox patients. The laity is becoming educated and recently we sent a patient, at her mother's request, to Dr. Allen for such treatment. I think it is important to make a correct diagnosis. We are looking for a cure of dementia praecox, and although we are optimistic

over the results being obtained in all mental cases, such as paresis, the patient still has paresis after receiving intensive treatment and the blood and spinal fluid are rendered negative. In idiopathic epilepsy treatment seems beneficial, yet when discontinued the patient has a return of convulsions. However, any temporary improvement or relief is a step forward and Dr. Allen is to be congratulated in his progressive undertaking.

Dr. H. D. Allen, Jr. (Milledgeville): I wish to thank Dr. Brawner, Dr. Garrard and Dr. Yarbrough for their liberal and helpful discussion. My first reactions to the announcement of the insulin treatment of schizophrenia were those expressed by Dr. Cameron of Worcester State Hospital. Referring to his work with Dr. Hoskins he stated: "We set as our objective the question as to whether or not insulin produces ameliorative changes of any kind at all, leaving to a later date the question of what percentage of favorable results could be obtained."

Insulin shock or insulin treatment even before the shock phase is reached seems to exert a relaxing effect on states of mental tension. With the patient in a more placid state of mind it is equally important that proper directions be given to the patient's activities during the interval between treatments. To me the objective approach to the patient seems more important than subjective examinations of insight.

I was greatly pleased to have Dr. Brawner see my patients in the various stages of treatment and I am indeed complimented by his remarks.

Dr. Garrard's point is quite in evidence in my case reports. The best results are where there is a tendency to remissions but the initiation of improvement in the course of a single treatment is certainly beyond the possibility of coincident.

The improvement in the report and psychotherapy as Dr. Yarbrough points out is most important and should receive complete study. The alterations in the blood chemistry are equally interesting and we hope from studies of the varying shifts of the blood sugar and plasma cholesterol in a wide range of psychotic patients to get some data of diagnostic importance as well as a better understanding of the physiology involved in these reactions. This work will take much time and refinement of chemical procedures.

For all practical purposes theelin seems to be specific in involutional melancholia, the apparent recovery rate being 92 per cent in the series treated by C. C. AULT, EMMETT F. HOCTOR, Farmington, Mo., and AUGUST A. WERNER, St. Louis (*Journal A. M. A.*, Nov. 27, 1937). Massive doses of from 30,000 to 40,000 international units for the first month of treatment accelerate the recovery rate in involutional melancholia, the hospitalization being reduced to an average period of three months. Theelin is indicated for any woman during the climacteric having disturbing mental aberrations, whether mild or severe. Theelin therapy is efficacious in relieving distressing symptoms of the climacteric in other types of psychoses, many patients being improved to the extent of recovery.

INTRACUTANEOUS TEST FOR CHANCROIDAL INFECTION

A Comparison of Antigens†*

ROBERT B. GREENBLATT, M.D.

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Augusta

Elsewhere,^{1,2,3} we have described a method for cultivating *H. ducreyi*, the preparation of a bacillary antigen for intracutaneous tests, and the value of this test in the recognition of chancroidal infection, especially as it may be encountered with other of the venereopathia. Of equal importance is this information to those who make their own antigen for Frei's test, since it has been shown by Cole and Levin,⁴ and also by ourselves, that chancroidal bubo pus can serve to a limited extent as an antigen in the skin testing for Ducrey's in-

The Dmelcos vaccine is a commercial preparation which has been on the market for a number of years, and in view of its efficacy, its use in Europe, England and Canada is quite general as an aid to the diagnosis of chancroid. This preparation, however, owing to governmental regulations, has not been available as yet to the American market. In fact, aside from Hunt's preparation⁵ no other vaccine other than our own has been systematically reported, owing no doubt to the difficulty met with in the cultivation of *H. ducreyi*.

A small amount of Dmelcos vaccine† was obtained for experimental purposes and it was decided to make comparative tests with our own preparation. The results are indicated in the accompanying protocol, and while the number of cases is not large, it is evident that the reactions are similar with both antigens.

Summary

One group of nine selected cases of chancroidal infection was retested with Dmelcos

CHART I
COMPARATIVE SKIN TESTS IN CHANCROID INFECTION

| Case | 24 hrs. | | 48 hrs. | | 24 hrs. | | 48 hrs. | | |
|----------------|---------|---|---------|---|---------|---|---------|---|---------------------------------------------------------------------|
| | I | E | I | E | I | E | I | E | |
| 1. (w) husband | 7 - 25 | | 10 - 27 | | 7 - 25 | | 10 - 30 | | { 4 plus in 48 hrs. H. ducreyi isolated. Frei negative. |
| 2. (w) wife | 12 - 30 | | 12 - 25 | | 9 - 35 | | 8 - 42 | | |
| 3. (w) | 10 - 25 | | 12 - 15 | | 10 - 25 | | 13 - 17 | | { 4 plus in 48 hrs. H. ducreyi isolated. Frei negative. |
| 4. (w) | 6 - 30 | | 9 - 25 | | 9 - 25 | | 8 - 40 | | 3 plus in 48 hrs. Frei negative. |
| 5. (w) | 8 - 30 | | 14 - 50 | | 8 - 30 | | 15 - 45 | | 4 plus in 48 hrs. H. ducreyi isolated. Frei negative. |
| 6. (c) | 13 - 15 | | 7 - 20 | | 13 - 14 | | 8 - 15 | | 4 plus in 48 hrs. smears suspicious for H. ducreyi; Frei neg. |
| 7. (c) | ..... |  | 10 - 35 |  | ..... |  | 12 - 40 | | 3 plus in 48 hrs. Frei positive. |
| 8. (c) | 15 - 25 | | 15 - 35 | | 15 - 25 | | 15 - 35 | | 4 plus in 48 hrs. Frei positive. |
| 9. (c) | 11 - 25 | | 10 - 14 | | 13 - 25 | | 10 - 16 | | 4 plus in 48 hrs. Frei neg. Also has granuloma inguinale. |
| Controls | | | | | | | | | |
| 1. (w) | 3 - 15 | | 2 - 2 | | 3 - 14 | | 2 - 2 | | 3 plus in 48 hrs. H. ducreyi isolated. Frei negative. |
| 2. (w) | 3 - 15 | | 2 - 3 | | 3 - 14 | | 2 - 2 | | |
| 3. (w) | ..... |  | 2 - 2 |  | ..... |  | 2 - 2 | | |

Key: All figures in mm.

I: Indurated zone.

E: Erythematous zone.

(w): white; (c): colored.

24 and 48 hour readings.

Diagnostic readings at 48 hours.

With our own preparations, several hundred controls have been done.

fection; hence, the confusion in the differential diagnosis if "mixed" pus is used.

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†The authors wish to express their gratitude to Alberic Marin, Professor of Dermatology and Syphilology, University of Montreal, Canada, for the supply of Dmelcos vaccine used in this study.

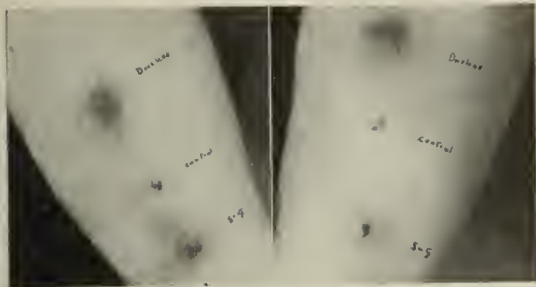


Fig. I. Case 4. White, male. Note the central area of induration with the surrounding zone of erythema and the similarity in response obtained with Dmelo vaccine and our bacillary antigen.

Fig. II. Case 5. White, female. The hleb reaction surrounded by a zone of erythema is another type of positive reaction frequently seen.

vaccine, a control solution and our own bacillary antigen. In this group five were white and four colored; five were males and four females; one husband and wife. Another group of three white males was used as a control. It will be noted from an analysis of the chart that a marked reaction is obtained in the first 24 hours in all cases and that in the negative control group this reaction subsides in 48 hours. All tests therefore should be read at the end of 48 hours and not earlier. The nine cases of chancroidal infection were also tested with Frei antigen for lymphogranuloma venereum and two of these were positive. One case was complicated by active granuloma venereum and Donovan bodies were found in smears and biopsy demonstrated the specific histologic changes.⁶ The need for differentiation of the various venereal diseases becomes evident particularly in mixed and atypical cases.

It must be pointed out that eight of this group of nine cases of chancroidal infection were also tested with chancroidal bubo pus antigen. This is the method advocated by Cole and Levin. In four of these patients (1, 4, 8, 9) a positive response was invoked, in three patients (5, 6, 7) a negative response, and in one patient (3) positive reactions were obtained with one strain of bubo pus and negative reactions with another strain. The superiority of the bacillary antigen over bubo pus antigen becomes readily evident when it is seen that the skin reactions obtained with our bacillary antigen matched the Dmelo vaccine in every instance.

A reaction is considered positive if after the intracutaneous injection of 0.1 cc. of antigen

an area of induration measuring over 0.7 cm. and surrounded by a zone of erythema measuring over 1.4 cm. is present at the end of 48 hours.

Conclusions

The usefulness of a bacillary antigen in the recognition and differential diagnosis of chancroidal infection by the intracutaneous test has been pointed out. In a small series of cases, a bacillary antigen as prepared by us, gave results similar to those of the one commercial preparation (Dmelo vaccine) which is on the market in Europe.

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PULMONARY ACTINOMYCOSIS

Report of Case

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A white male, aged 47, a shoe salesman, was seen on June 2, 1936, with a chief complaint of pain in the right chest, cough and weakness. The onset occurred six weeks previously with symptoms suggesting influenza. He had not been seen by a physician but had remained in bed several days before attempting to return to work. Due to weakness he had been unable to work more than two or three days each week. He had lost about ten pounds of weight. The past history was negative except for influenza in 1933.

The patient's temperature was 101° F., pulse rate 100, respiration 20. Physical examination showed an area of dullness to percussion (6 x 6 cm.) posteriorly between the spinal column and right scapula. Tactile and vocal fremitus were unaltered. Breath sounds were slightly diminished over this area; but no râles or pleural friction rub were heard. There was no glandular adenopathy. Weight 115 pounds. The examination was otherwise negative. Blood count: W.B.C. 16,350; R.B.C. 3,700,000; Polys. 71 per cent. S. M. 24; Mono. 4; Bas. 1; Hb. 55 per cent. Blood Wassermann negative; Urine negative. Examination of sputum negative for tubercle bacilli and fungi. Roentgenogram of chest showed extensive infiltration on the right side extending from the first rib to the fifth interspace. The heart was deviated to the right and there were heavy calcium deposits in the costal cartilages. Impres-



FIG. 1. Roentgenogram of Chest, June 2, 1936.

sion: incomplete resolution of a bronchopneumonic process with a strong possibility of a tuberculous pneumonic process.

With this as a working diagnosis, the patient was confined to bed, placed on a high caloric diet and given symptomatic treatment. Six weeks later he still had fever in the afternoons, continued to lose weight, and his productive cough persisted. Although several sputum examinations revealed no tubercle bacilli an opinion of tuberculosis was given, based upon the clinical picture, and he was referred to the Atlanta Tuberculosis Association.

The records of the Tuberculosis Clinic show that on July 15 his weight was 103½ pounds, pulse rate 120, temperature 100.8° F., respiration 38. Tuberculin test was plus 2; R.B.C. 3,900,000 with 75 per cent hemoglobin, W.B.C. 11,200, with 80 per cent polys. No malaria seen. Wassermann, stool and urine tests were negative. Sputum: no fungi, spirochetes or tubercle bacilli found; large numbers of streptococci present. Thoracentesis of right chest resulted in a dry tap as the patient complained of intense pain and fainted, interrupting the procedure. The impression of the roentgenologist of the roentgenogram of the chest was an exudative tuberculosis involving chiefly the right lung. Dr. Champ Holmes, who had charge of this patient at the clinic, was convinced that the diagnosis was not tuberculosis, basing his contention on the fact that tubercle bacilli were consistently absent in the presence of such extensive involvement of the lungs and the profuse expectoration. His impression was lung abscess, possibly secondary to pulmonary malignancy. Bronchoscopic examination was made at Grady Hospital on August 17. The right bronchi were filled with free pus and the right hilus was edematous. No new growth was seen. As the abscess was centrally located, postural drainage was instituted.



FIG. 2. Roentgenogram of Chest, Sept. 15, 1936.

On September 2 the calf of his left leg began to enlarge and was painful. Trauma to the leg was denied and, as the patient had been in bed continuously, this was accepted. Hot applications were applied to the leg and on September 10 a slight deep fluctuation was noted. Aspiration of pus was made and the patient was admitted to Grady Hospital where a deep abscess was incised and at least a quart of pus escaped. Culture of pus showed mixed infection, principally staphylococci. No tubercle bacilli or fungi noted. The abscess left a fistulous tract which never completely healed, continuing to heal over and then break down. Sputum examination was negative except for pus cells. Roentgen-ray examination showed a progressive infiltration of the right lung with the appearance of several small cavities, which was diagnosed tuberculosis with early cavity formation.

The several following roentgenograms revealed a progressive deviation of the heart and the trachea toward the affected side suggesting an atelectasis as sometimes results from a bronchiogenic carcinoma. Such a diagnosis could well explain the secondary pulmonary abscess and the marked cachexia. With this as a tentative diagnosis the case was presented at the Steiner Cancer Clinic conference for the consideration of roentgen-ray therapy. No curative and little palliative value (the patient was then free of pain) could be offered if carcinoma; and as roentgen-ray therapy was contraindicated in tuberculosis, it was not used. Iodides were also considered, but as they were contraindicated in tuberculosis and as fungus infection had not been proved, their use seemed unjustified.

Death occurred on January 24, 1937, nine months after onset. A partial necropsy showed the heart pulled over to the right nipple line, the left lung emphysematous, the right lung solidified with multiple areas of caseation. The right pleura was adherent and in many

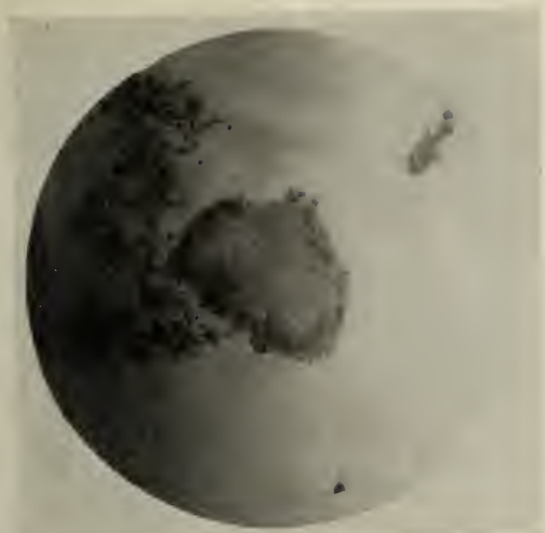


FIG. 3. Microscopic Appearance of Mycelia.

places absent as the infective process had eroded through pleura and into ribs and chest wall. The bronchi were free from disease; the lumen of the right bronchi contained pus. There was no lymphadenopathy in the mediastinal or cervical regions. The liver was apparently normal from the inspection through the dome of the diaphragm. The abdomen was not opened. A mass of tissues from the diseased right lung was torn out and sections were made. From the gross findings at necropsy the diagnosis seemed to be fibro-ulcerative tuberculosis. The sections, however, showed the presence of ray fungus bodies and established the final diagnosis of pulmonary actinomycosis.

Comment

In 1925, Sanford collected 680 cases of actinomycosis. The cervico-facial region is involved primarily in 50 per cent of the cases while only 14 per cent were of thoracic origin. Pulmonary actinomycosis is frequently unilateral and dissemination by the lymphatic system seldom occurs. The characteristic pathologic findings are extreme fibrosis and multiple abscesses with sinus formation or consolidation. The parietal and visceral pleura are usually sealed together and a sinus is frequently formed through the chest wall without producing an empyema. The disease process spreads without respect for the surrounding tissues. Kirklin states "there is only one roentgen sign which, when present, might help materially to establish a diagnosis of actinomycosis; that is, involvement of the ribs and sternum." Chronicity is characteristic of this rare disease and the prognosis is usually fatal. Diagnosis is extremely difficult and can only be determined by the presence of "sulphur granules" from a discharging sinus

or sputum or the demonstration of the ray fungus bodies in the sputum. The mycelia appear as a center of tangled threads surrounded by a zone of clubbed ends. When confronted with a patient with a chronic cough, pleuritic pain, expectoration, fever, loss of weight and weakness, pulmonary actinomycosis should always be considered.

This case report again emphasizes the value of necropsy in making the correct diagnosis.

MEDICAL AND SURGICAL REMINISCENCES

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The communication in the March, 1937, issue of this JOURNAL by Dr. T. C. Davison was interesting as well as historical. As I was a student at the old Atlanta Medical College in the fall of 1888, I can qualify as to the accuracy of many of the doctor's statements. Dr. Willis Westmoreland, Sr., was professor of surgery and surgeon-in-chief of the college, while his son, Willis, Jr., was his assistant. Although Dr. Westmoreland, Sr., was feeble and infirm from the weight of years, still he was full of vim and so obsessed with the idea of being the whole show that "Little Willie," as he was called, was hardly noticed. I saw Dr. Westmoreland, Sr., do one mid-thigh amputation. He had the customary cigar in his mouth during the operation and removed it several times with his hand in order to describe the various steps of the operation. Four days later the patient was rolled on the old wooden operating table into the amphitheater of the college building to have his dressing changed; you could have traced the route over which he came by a dribble of pus on the floor. When the dressing was removed the stump was submerged in pus, whereupon the doctor exclaimed, "Laudable pus, gentlemen; I never saw a more typical example of laudable pus in my life." He patted the victim on his cheek and assured him that he would soon be all right. But there was a subdued rumor on the campus three days later that the patient had left in a black box.

At that time Drs. Westmoreland, Sr., H. V. M. Miller, president of the faculty, Abram Love and A. H. Olmstead were criticizing

Drs. Westmoreland, Jr., Floyd W. McRae and J. M. Crawford for having accepted the germ theory as the cause of disease, and for teaching and trying to practice it. You would have thought from the friendly criticism by these elderly men that they thought the young men were indulging in some kind of fantastic quackery. Dr. A. W. Calhoun, Dr. W. S. Kendrick, who was serving his first year as dean of the faculty; Dr. W. P. Nicolson, and Dr. Virgil O. Hardin, who was serving his first year as professor of obstetrics and gynecology, all had evidently become advocates of the germ theory as the cause of disease, but they were taking no part in the controversy. Dr. Westmoreland taught surgery by lectures and quizzes; usually two lectures followed by a quiz. At those quizzes he had certain stock questions that he asked. I submit two as samples:

Q. What is congestion?

A. Local perverted vascular action.

Q. What are the symptoms of congestion?

A. Heat, pain, redness and swelling.

If we students could get these and other similar questions and answers over strong we were in fine standing. On one occasion Dr. Robert Battey of Rome, who was the first surgeon to do ovariectomy, came down and occupied one of Dr. Westmoreland's periods, explaining his operation and trip to Europe. The doctor was very feeble at that time.

Dr. H. F. Harris, who later became the efficient secretary of our State Board of Health, was a student in my class in 1888. My name does not appear on the roster of the alumni of the college because of the following reasons: Dr. J. S. Todd was professor of materia medica. The doctor had what at that time the entire faculty thought, and what we all now know to have been, an exaggerated fear of the toxicity of digitalis. During one of his quizzes he asked me how to make an infusion of digitalis. I gave the answer according to Barthlow's *Materia Medica*, which was the textbook in use at that time. He then asked for the dose, which I also gave according to Barthlow, but the doctor indulged in some lavish criticism. President Miller and Dean Elkin of the faculty remonstrated with the doctor and tried to induce him to adjust the matter which he declined to do. I was very poor, but was ambitious

and impetuous and, as the doctor was a one-armed Confederate veteran, I concluded that the wisest course for me to pursue was to withdraw from the college. I went to Louisville and reentered the Louisville Medical College where I had taken a course the previous year.

At that time, according to law and custom, it was only necessary for a student to attend two courses of lectures of six months each to be eligible to graduate, if he could pass the examination, which as a rule was not very rigid. The only legal requirement after graduation was to register the diploma with the clerk of the Superior Court in the county in which the doctor proposed to locate. Of course; the medical student was supposed to have read medicine one year in the office of some physician before entering the medical college. If such physician preceptor chanced to be a man of outstanding ability, he loomed large in the rating and prominence of the young doctor of medicine.

We men who graduated under the above mentioned regime, when measured by the present standards of requirements and efficiency, were not prepared to practice medicine. However, many of the graduates filled important places in their communities and some of the outstanding men in the profession today are the products of that era. If I may be pardoned for a personal reference, when I graduated in March, 1889, I realized that I was not qualified for the work, so immediately I went to New York and took a lengthy course at the Polyclinic Medical School and Hospital. The staff of that hospital had only the year before dismantled and set aside the operating room spraying device described by Dr. Davison in his communication. The interns at the hospital dubbed the contrivance, "Lister's Carbolized Teakettle." Also, a short while before, they had substituted sterile water for tap water in the operating room, but the natural sea sponges for use in operations were much in evidence. The smaller sponges were used by the surgeons for swabbing, while very large sponges, as large as a large size pocket handkerchief—about one inch thick and called elephant ear sponges—were used to pack off abdominal cavities. After the surgeon used a sponge he tossed it into a basin of carbolized water from which it was rinsed by

a nurse and tossed into second and third basins for similar treatment, then it was placed back on the table for additional use. At the conclusion of the operation, the sponges were again carried through the same process of cleaning and were stored in a tank of carbolized water for the next operation. As crude and unscientific as that may seem, the surgeons were having fair success; many wounds and incisions were healing by primary union. No surgeon's gloves were in evidence then, as it was two years later, in 1891, that Dr. I. M. Goss of Philadelphia conceived the idea and gave the profession rubber gloves.

The principal surgeons of New York at that time were Drs. John A. Wyeth, Gill Wiley, T. Gaylard Thomas, W. T. Bull, J. B. McBurney, W. S. Phelps, Robert T. Morris and a Dr. Bryant. I saw all of these men operate, had casual acquaintance with several of them and intimate acquaintance with one or two, especially Dr. Wyeth, in whose home I was an occasional visitor. I did then, and do yet, regard Dr. John A. Wyeth as having been the greatest teacher of surgery that America has ever produced.

The town of Metcalf in Thomas County is named for Dr. Henry Metcalf. He and Dr. Thomas were regular winter visitors to Thomasville forty-five years ago. Dr. Davison, in his communication referred to the scarcity of hospital facilities in Atlanta in those days. There were no hospitals in southwest Georgia until about 1902 when Dr. T. M. McIntosh opened a small hospital in Thomasville. Three years later the writer established a small hospital in Cairo. Prior to that time operations were done in homes and emergency operations at night were performed by the light of pine torches, or two or three small lamps. Back in those days it was my experience that neither a patient, nor his family, would consent to an appendix operation until the surgeon took a good-sized syringe and aspirating needle and demonstrated a liberal quantity of pus, and instantly some bystander came out with the question, "Doc, can't you scatter it?" I always replied, "Yes, with a good pair of scissors and knife." As further evidence of this fact, the first one hundred appendix operations I did,

sixty-seven were pus cases. The thirty-three clean cases all recovered. Five of the sixty-seven pus cases died; not such a bad record even now. The technic in these operations was a very small incision, just large enough to admit two or three fingers, locate the abscess and open it with the fingers, making no effort whatever to find or remove the appendix, and insert two three-eighths inch soft rubber drainage tubes well down into the abscess cavity. Closure was by one through-and-through silk suture between and on either side of the tubes, with no further effort at closure of the incision. The tubes were shortened on the fourth and sixth days, and removed on the seventh or eighth day. In many of these cases the gangrenous appendix was discharged through the incision. In none was it ever necessary to do a second operation for the removal of the appendix. In only two cases were there intestinal adhesions that were troublesome, and that not sufficient to necessitate an operation. In two or three there were small hernias; three patients had fecal fistulas—two were in the cecum and healed spontaneously, while the other was in the ileum and required an end-to-end anastomosis.

The young men who began the practice of medicine and surgery in the late eighties and through the nineties, if they were at all conscientious and progressive, had a difficult road to travel. They had to grope amid the difficulties, uncertainties and perplexities of the beginning of the present medical and surgical era. While they had to combat the ignorance and superstition of the old regime, when the science of the practice of medicine was thought to consist in being skillful in the art of how to blister, bleed, puke and purge. When I recall to mind the crude facilities, or rather the absence, of operating facilities in the surgical amphitheater of the Atlanta Medical College in 1888, the crude and meager equipment in the operating rooms of the large hospital in New York the following year; and when I now look in upon a thoroughly modern operating room with an operation under way, I really wonder how so many improvements, advancements, and discoveries could have come about in the life time of one man.

TOXEMIAS DURING THE LAST TRIMESTER OF PREGNANCY

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Macon

In making a study of Colvin's report of the Maternal Mortality in Georgia during the year 1935 we learn that: "Thirty-five and five-tenths per cent of the maternal mortality was due to albuminuria and eclampsia; that of the 123 deaths among women whose pregnancies were complicated by eclampsia, 57 per cent were among white women and 43 per cent among negroes; 86 per cent had reached the eighth month of gestation; 19 per cent died undelivered; 33 per cent were delivered by operative procedures; 55 per cent died in their homes, and the indication was given as 'eclampsia' in 14 of the 25 reported deaths following the cesarean operation."

This report should stimulate the physicians of the State to greater interest in the expectant mothers' receiving adequate prenatal care and the adoption of a more scientific and conservative treatment for the toxemias of pregnancy.

As a member of the Committee for the Study of Maternal Mortality, I appreciate the opportunity of presenting the fundamentals essential for the diagnosis and treatment of the so-called toxemias occurring during the third trimester of pregnancy.

The etiology of the toxemia or toxemias of pregnancy is still obscure. We do know that pregnancy is the predisposing cause of the clinical entity, and that there are one or more toxins present in the blood stream circulating through the various organs or systems, producing characteristic symptoms and lesions.

I share the opinion of Goodall in that "there is only one toxemia of pregnancy during the third trimester and that it has a protean symptomatology. The reason for this lies in the idiosyncrasies of the patients and in the susceptibilities and reserves of the systems and of individual organs to a common toxicity, which bathes all the tissues generally and commonly. The duration plus the degree of toxicity and the reserve of the

individual as to her nervous system and of her organs generally and individually determine the course of the disease." The other widely different pathologic states, often classified under the heading of toxemias of pregnancy, namely — hypertension, nephritis, both inflammatory and degenerative, are present before the onset of pregnancy and should be considered as primary, though complicated by the added burden of pregnancy.

For simplification, toxemic patients should be considered as a group which may be divided into convulsive (or eclamptic), and non-convulsive toxemia. The latter group is composed of all patients who have albuminuria, hypertension, or edema during pregnancy. The parity of the patient, history, time of onset of symptoms, various blood and urine examinations, renal function tests, especially several weeks or months after delivery, are considered in deciding whether or not the condition was toxemia of pregnancy, nephritis complicated by pregnancy, or essential hypertension.

In incipient toxemia the most common findings are increased irritability of the nervous system, insomnia, dizziness, mild headaches, relative gain in weight, and slight elevation of blood pressure. The urine may show only a trace of albumin.

In moderate toxemia, commonly referred to as a preeclamptic toxemia, there is either a gradual rise in blood pressure, which may be indicative of a chronic state, or a sudden rise, indicating a more acute toxic condition. Nervous manifestations are more constant and pronounced as the toxicity increases. In the acute or fulminating cases albumin may be entirely absent in the urine until after the first convulsion. There is usually a marked gain in weight due to a generalized edema. The urinary output is diminished, although renal function tests are normal and blood chemistry tests negative. Visual disturbances, dizziness, headaches, insomnia, and anorexia are symptoms that are commonly present.

Nephritis complicated by pregnancy is indeed a grave condition, and according to Stander the average maternal mortality in women suffering from this complication is approximately 40 per cent within ten years. Nephritis is a definite clinical entity and different from that of eclampsia or preeclampsia.

The clinical picture is identical with that of so-called preeclampsia, and it is almost impossible to differentiate the one from the other until several months have passed following delivery. The patient's previous history is important in revealing past acute contagious diseases, chronic focus of infection, or cardiorenal disease. Repeated and short spaced pregnancies are often responsible for breaking down the cardiorenal systems which ultimately lead to a chronic cardionephritic state. Marked visual disturbance, impaired renal function and headaches usually develop along with hypertension. Edema may be absent, but is usually extensive. Upon studying a woman with chronic nephritis in repeated pregnancies, it becomes evident that each succeeding pregnancy results in more renal damage than the preceding one. This is usually shown by the fact that hypertension and albuminuria are noted progressively earlier in each pregnancy. It is only in nephritis that edema, visual disturbances, and headaches appear quite early in pregnancy. The symptoms and signs of incipient toxemia and preeclampsia present themselves during the last trimester.

In essential hypertension of pregnancy the only physical sign is elevation of blood pressure usually to between 140 and 160. This increase usually makes its appearance during the second trimester and gradually increases as pregnancy advances. With close observation and guidance these patients can usually be taken to term and delivered of a perfectly normal baby. Immediately after delivery the blood pressure returns to normal, leaving the patient without any apparent kidney damage. There may be a recurrence in subsequent pregnancies which leads to the classification given by some authorities as "recurrent toxemia."

Our best results in the treatment of the patient are obtained by recognition of the toxemia in its incipency, and the interruption of pregnancy regardless of the time of gestation in those patients who do not respond to treatment.

The treatment of incipient toxemia is that of reducing nerve irritability by sedatives, supervising the diet, and insisting that the patient get sufficient rest and thorough elimination. Sedation is obtained by bromides or

one of the barbiturates. The diet should be high in carbohydrate, low in protein, and salt-free. Magnesium sulphate is given to promote intestinal elimination. Many of these patients show evidence of secondary anemia and should receive adequate treatment in the form of iron, liver extract, and vitamins. Calcium and viosterol should be prescribed for all patients showing evidence of toxemia.

Not knowing the specific toxin, our treatment must be empiric rather than specific. We know the changes that are taking place in the kidneys, the liver, the central nervous system, and cardiovascular system. Therefore, the agents and methods used must prevent further damage to the vital organs and restore them to normal function. In general the active treatment of preeclamptic toxemia should include the following:

1. The reduction of the products of protein metabolism, in order to spare the kidneys.
2. The rapid elimination of the toxic elements circulating in the blood, in order to reduce the damage to the brain, heart, and liver.
3. The administration of carbohydrates to replenish depleted stores of glycogen in the liver.
4. The support of the cardiac and respiratory centers until the peak of the intoxication is passed.
5. The emptying of the uterus if the patient's condition does not improve under active treatment.

Patients who do not improve following rest, dietary regulation and elimination but who show an increase in the toxic manifestations should be confined to bed, preferably hospitalized, and given more intensive treatment: greater reduction in the diet, limitation of fluids, thorough elimination by the use of saline cathartics, sedation by use of bromides, chloral or one of the barbiturates. Magnesium sulphate is given intravenously or intramuscularly to lower blood pressure, lessen edema, increase urinary output, and prevent convulsions. Dextrose should be given intravenously to replenish the depleted store of glycogen in the liver and to favor diuresis. Those patients with marked edema should be given a high concentration of dextrose and low fluid volume for fear of throwing too great a burden on the heart. Those without edema should receive a low concentration and greater volume of fluid.

It is not advisable to temporize too long with cases of toxemia in pregnancy, for the ultimate kidney damage is in direct proportion to the duration of the toxic condition be-

fore delivery. The rapidly fulminating cases which come as a "bolt out of a clear sky" usually leave the patient without any ultimate kidney damage, and those which show marked improvement under intensive medical treatment may be carried on to term with the hope of obtaining a living baby. Nephritis complicated by pregnancy always leaves the kidneys in worse condition than before the onset of pregnancy. Intrauterine death of the fetus and premature separation of the placenta are common complications of nephritic toxemia; after a definite diagnosis of nephritis has been established pregnancy should be terminated, regardless of the time of gestation. We have not the right to take chances on the life, or the life expectancy, of the mother for the sake of a baby whose life is problematic.

The method used in terminating pregnancy depends upon the time of gestation and condition of the cervix. Those patients at or near term are best induced by rupturing the membranes, draining off the amniotic fluid, and giving small doses of pitocin at frequent intervals. Those with no dilatation of the cervix should be induced by inserting a catheter in the lower uterine segment and packing the cervix with sterile gauze. In premature deliveries the membranes should be held intact if possible until there is complete dilatation of the cervix. The delicate structure of a premature baby's head will not stand the traumatism incident to its use as a dilating wedge.

After a careful study of the reports from the various clinics and the experience gained in fifteen years as attending obstetrician at the Macon Hospital, I wish to recommend the conservative method of treating the convulsive type of toxemia in pregnancy. The swing of the pendulum to the side of conservatism during the last fifteen years is the result of a more careful study of the clinical picture, the pathology, and the comparative results obtained by various methods of treatment. The pioneer work of Stroganoff followed by various modifications of his conservative treatment in America and Europe is responsible for the present decided trend toward conservatism in the treatment of eclampsia, which is based upon the following: First, reduction and elimination of toxins; second, overcoming the irritating effects of the toxins on

the nervous system; third, controlling convulsions; fourth, supporting the cardiovascular and respiratory systems; fifth, restoring kidney function; sixth, avoiding trauma; seventh, preventing infection; and eighth, diminishing shock.

Although the fetus in utero is considered the predisposing cause of the toxic state, it should not be considered until every means is employed to reduce the process of toxin formation in the mother and to overcome its irritating effects and restore the damaged organs and systems, so far as is possible, to their physiologic functions.

Cesarean operation has its place in terminating pregnancy in those cases which do not respond to medical treatment or show definite evidence of cephalopelvic disproportion predisposing to a difficult delivery. Should a section be necessary for obstetric reasons, the patient should be treated along medical lines and prepared for the added strain of an operative delivery.

There should not be any set routine in the treatment of eclampsia.

If possible all eclamptic patients should be hospitalized and placed in a quiet, darkened room, with the foot of the bed elevated to favor drainage of pulmonary secretions. Constant observation is necessary to prevent injury to the tongue, falling out of bed, and aspiration of vomitus or drowning from the occasional excessive pulmonary secretions. A mouth gag (clothes pin, toothbrush) and tracheal catheter should be at hand. The temperature, pulse and respiratory rate, urine volume and blood pressure should be determined every two hours until the patient is conscious and improving. Her condition as to the number of convulsions, the degree of coma, the quality of pulse, difficulty in breathing, cyanosis, etc., should be noted.

For the control of convulsions morphine, barbiturates (preferably sodium amytal), intramuscular and intravenous magnesium sulphate and dextrose solutions are our most valuable agents. One-quarter to one-half grain of morphine should be given immediately after the first convulsion. This is followed by 20 cc. of 10 per cent magnesium sulphate solution given intravenously which is repeated after each convulsion until not more than three injections have been given.

Should the convulsions continue and the patient be unable to take medication by mouth, sodium amytal may be given intravenously or by rectal instillation. While the patient is narcotized she should receive dextrose intravenously, the concentration and volume of the fluid depending upon the edema present.

Gastric lavage should be done only if there is excessive vomiting and apparent dilatation of the stomach. Hot packs, high colonic irrigations are of little benefit and often precipitate a convulsive seizure. As the increased blood pressure is in great part compensatory, care should be taken in the administration of drugs that will cause too rapid a reduction of blood pressure, resulting in possible circulatory collapse. As most of the deaths in eclampsia are caused by cardiac failure, the patient should be digitalized as rapidly as possible. Oxygen should be administered by nasal catheter if the patient is cyanotic.

The oliguria or anuria, coma, fever, tachycardia and cerebral edema are treated with injections of hypertonic dextrose solution. The beneficial effects of hypertonic solution of dextrose in cases of toxemia are as follows: It replenishes depleted glycogen, combats acidosis, aids in withdrawal of fluids from the edematous brain and body tissues, dilutes these fluids, and promotes diuresis. For this purpose 250 cc. of 25 per cent solution is given, or 1,000 cc. of 10 per cent solution if the patient is in need of fluids. In giving solution of dextrose the physician must observe several precautions: 1. The dextrose should be obtained in ampules or in specially prepared liter flasks of proper dilution from a reliable pharmaceutical house; 2. If ampules are used, the water in which the dextrose is diluted should be freshly distilled or double distilled. 3. New rubber tubing should never be used unless it has been boiled in an alkaline solution. 4. The solution of dextrose should be warm (100° F.) and given slowly. The solution of dextrose may be given every eight hours until labor is over and often it is of value after delivery. If anasarca or other symptoms of cardiac failure are present, 100 to 200 cc. of a 50 per cent solution are given.

Vascular collapse in nephritic cases should always be remembered as a possible complication before or after delivery. The etiologic

factors are: Toxemia, sudden emptying of the uterus, hemorrhage, and the administration of powerful depressants which cause marked reduction in blood pressure. Cardiovascular stimulants and hypertonic intravenous dextrose solution form the basis for effecting recovery from the shock.

Those cases of eclampsia with a blood pressure of 180 or more who show evidence of beginning pulmonary edema by frothing at the mouth and symptoms of cardiac embarrassment should have a venesection, withdrawing as rapidly as possible 500 cc. of blood. Atropine sulphate and digitalis often prove beneficial in the prevention and clearing up of disturbances in the cardiorespiratory systems.

After the convulsions are under control the patient should be given intramuscular magnesium sulphate and sodium amytal in ample dosage to prevent the recurrence of convulsions and to maintain a reduced blood pressure. Intravenous calcium gluconate will also prove beneficial in the prevention of convulsions. Thorough intestinal elimination should be obtained by giving magnesium sulphate solution by mouth.

No attempt to start labor or terminate pregnancy should be instituted until the eclampsia is under control, which usually requires 6 to 8 hours. If there is a cephalopelvic disproportion cesarean section is indicated. In those cases of more than 35 weeks' gestation if there is no disproportion and if the cervix is effaced and soft, labor should be induced by rupturing the membranes, care being taken to drain off as much of the amniotic fluids as possible. Pitocin in doses of 2 to 3 minims should be given subcutaneously every thirty minutes until the interval between contractions is 2 or 3 minutes and the duration of each is 40 to 50 seconds. If the cervix is long, firm and closed, labor should be induced by the insertion of a catheter or bougie in the lower uterine segment. After labor is initiated and there is partial dilatation of the cervix, the membranes should be ruptured.

In the mild cases of eclampsia where there is an immediate response to treatment, namely, reduction of blood pressure, establishment of kidney function and the clearing of edema, the patient may often be taken

nearer to term before induction. If she is not delivered, however, she must be kept under close observation, for if eclampsia recurs it is usually of a severe type and often fatal.

Labor often begins spontaneously due to irritation of the uterus by the toxins. When labor advances to complete dilatation of the cervix and the head is well engaged, it should be terminated as early as possible by a minimum amount of trauma. Rigid asepsis must be maintained and the patient prevented from losing an excessive amount of blood as the toxic and anemic patient will not withstand a severe infection. Manual dilatation of the cervix and delivery by version or high forceps have no place in the methods of delivering an eclamptic patient. During labor the patient must be held under deep analgesia produced by morphine, magnesium sulphate, and one of the barbiturates to prevent the recurrence of convulsions.

The type of anesthesia is of utmost importance in the surgical management of toxemic patients. Observation has shown that acidosis is a common finding in eclamptic patients and that inhalation anesthesia intensifies this complication. Local or spinal anesthesia is advised for all cesarean sections. Perineal infiltration and nerve block will often prove satisfactory for vaginal deliveries.

In any severe case of preeclamptic toxemia or eclampsia, convulsions may occur after delivery. Sedation and other measures used should be continued for several days. It is well to give as a routine immediately following delivery a hypodermic of morphine followed by sodium amytal, grains 3, every six hours until the danger of convulsion seizures has passed. Blood pressure readings and urinary output should be recorded daily. The low protein, salt-free diet should be continued until the edema has disappeared; then fluids, in the form of fruit juices, should be given freely.

Several months of observation following delivery are necessary before a definite diagnosis of the type of toxemia can be made. During this time if the condition was primarily that of essential hypertension the blood pressure will have returned to normal and the urine cleared of albumin. If the condition was of the so-called preeclamptic or eclamptic type the blood pressure and

urinary analyses may be normal. If as a result of the toxemia there has developed a chronic nephritis the clinical findings of nephritis will be present. If the condition was primarily nephritis the blood pressure will continue to be elevated and the urinary findings will be those of chronic nephritis.

Our advice to the patient concerning subsequent pregnancies should be based upon our conclusion as to what type of toxemia was present and the extent of the damage to the renal and cardiovascular systems. If no permanent injury has occurred in these systems another pregnancy may be safely attempted. However, if the damage is permanent, conception must be prevented; and should it occur, it must be interrupted at the first manifestation of toxemia.

Conclusions

A reduction in the maternal mortality in the State of Georgia can only be brought about by:

1. The organization and proper supervision of prenatal clinics in counties where such clinics are not available.
2. The education of the laity to the point where superstition and ignorance are replaced by interest and knowledge.
3. Early recognition of the toxemias in their incipency and the immediate institution of adequate treatment.
4. The adoption of a rational treatment based upon the pathologic changes that are taking place in the various organs and systems.
5. The resorting to operative procedures only when there is a definite indication based upon the possibility of a prolonged difficult labor or the patient's failure to improve under medical treatment.

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ELECTROCOAGULATION OF CANCER OF THE RECTUM

Report of Cases

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In 1910 Kolischer introduced surgical diathermy in the treatment of inoperable malignant tumors. In 1913 Strauss employed this method in 2 cancers of the colon and 3 of the rectum in aged persons. He continued to use the method in isolated cases when the lesion appeared inoperable. The results were so encouraging that, in 1929, he began to use electrocoagulation on practically all cases of cancer of the rectum. In 1936 he reported a series of 73 cases. In the last 31 cases, colostomy was necessary in only 2 cases and there was no operative mortality. He has expressed the opinion that in some way the destruction of the primary carcinoma produced clinically, at least, permanent systemic effect, and affected possible metastases.

X-ray and radium have proved ineffective in treatment of carcinoma of the rectum. Operation is often out of the question on account of the age or general condition of the patient, the extent or fixation of the growth, or because consent is not given to do a permanent colostomy. Moreover, the operative mortality is high, and death from recurrence or metastases all too common.

The following case reports illustrate the type of case suitable for this method of treatment and the favorable results that may be expected as well as some of the complications:

Case 1—Mrs. X., aged 72, had suffered with pernicious anemia 12 years ago; her hemoglobin was once as low as 30 per cent. For 2 or 3 years she had been constipated and this condition had become steadily worse, until the last year. Since then she had been annoyed with a recurrent "morning dysentery," that is, she would pass mucus and blood several times. This discharge had also been becoming more profuse. She had lost about 8 pounds.

Examination on Jan. 23, 1937, showed a crater-like ulcer involving about two-thirds of the circumference of the rectum on the posterior and lateral wall 3 inches above the anal margin; it was hard, nodular, and fixed. It almost occluded the lumen of the bowel, barely permitting the passage of a finger. On inspection through the proctoscope, the irregular ulcerated surface exuded blood, pus and mucus. Biopsy was

reported adenocarcinoma. X-rays of the pelvis and chest showed no evidence of metastases. Hemoglobin was 80 per cent, and the red cell count was 4,300,000.

The next day the neoplasm was electrocoagulated until the lumen of the bowel easily admitted a 1¼ inch proctoscope. She experienced little reaction and was not even confined to her bed after treatment. Fourteen days later, after sloughing of the desiccated mass, a second treatment was given to the entire ulcerated area. This also produced little systemic reaction and did not confine her to bed. Her general health improved and she was able to resume her regular domestic duties in another 2 weeks.

However, she continued to have some blood and mucus in the stool. On March 22 re-examination showed that the tumor had practically disappeared and there was some mobility of the bowel wall, but a small area of ulceration was still present. In November there was still a small area of ulceration. She lives in another state and has not been back for further examination.

On Feb. 3, 1938, she wrote, "I really feel well and vigorous for a woman of my age, but I still have frequent stools and sometimes the discharge looks like the discharge from an old wound, a little bloody and clotty, but not mucus."

Case 2—Mr. Y., aged 64, complained of bleeding and discharge from the rectum, irregular bowel movements and mucus in the stools for 9 months. Sigmoidoscopic examination by a competent surgeon 3 months earlier had been negative. The patient had not lost weight, though he felt that he had lost some strength. On Jan. 24, 1937, examination revealed 4 inches up from the anal margin, on the posterior wall of the bowel, an irregular, hard, crater-like ulcer, about 1½ inches in diameter. This protruded into the lumen of the bowel and was moderately fixed. Biopsy was reported an adenocarcinoma of the rectum. X-ray of the colon showed a constriction of the rectum just below the rectosigmoid junction. X-ray of the chest and pelvis showed no evidence of metastatic involvement. Hemoglobin was 90 per cent and the red cell count was 4,390,000.

The next day the entire ulcerated mass was electrocoagulated. The patient was kept in bed 2 days and then permitted to be up and about. Fourteen days later the sloughing area was desiccated a second time. Following this, there was considerable tenesmus, with blood and mucus in the stool, which gradually decreased.

On March 22, there was constriction of the lumen of the bowel just below the desiccated area, and ulceration was still present. A third electrocoagulation was done. This was followed in about 3 months by a narrowing of the lumen to almost one-third its normal diameter, with some ulceration above the stricture, and a little blood and mucus in the stool. He was having considerable trouble with constipation, but his general health was good and he was working regularly as a surveyor.

On Mar. 2, 1938, he passed a hard constipated mass followed by free bleeding from the rectum. On March 4, examination showed a rupture of the stricture with the diameter of the bowel almost normal again. The

area of ulceration was still present above the constriction with some induration and fixation of the rectum posteriorly. On May 24 he told me his general health was good and he was still working regularly, though he has lost 12 pounds since Thanksgiving.

Case 3—Mrs. Z., aged 62, was first seen July 26, 1937. She complained of a little blood and mucus in the stools for about 4 months. Examination at an inch above the rectosigmoid junction showed a mass about $\frac{3}{8}$ inch in diameter protruding about $1\frac{1}{2}$ inches into the lumen of the gut. The mass was not grossly ulceration, but there was bleeding from the tip, due perhaps to trauma caused by the passage of the proctoscope. It did not cause obstruction. Biopsy was reported adenocarcinoma, grade 4.

Operation was advised, but the patient refused it.

On August 2 the entire mass was removed by electrocoagulation down to the level of the mucosa. She had considerable pain and discomfort and was kept in bed 4 or 5 days. Examination 6 weeks later showed constriction of the lumen and recurrence of the growth. It was then a sessile mass involving about two-thirds the circumference of the bowel. Further electrocoagulation was not deemed advisable on account of the great rapidity of the recurrence, as well as of the difficulty of doing such extensive coagulation in that area. She was referred for x-ray treatment. She died in January, 1938, from general carcinomatosis.

Comment: The first case illustrates inoperable carcinoma with almost complete obstruction of the rectum in a woman of 72. The growth was easily accessible to electrocoagulation treatment. She has been permitted to carry on her regular routine of life for more than a year. Her bowels are moving normally and she is still feeling "well and vigorous," although blood and mucus are still present in the stool. In my opinion, the result has been very satisfactory for this type of case.

The second case illustrates a less extensive growth but one of a higher grade of malignancy. The partial fixation of the new-growth made it of questionable operability. If he had survived a radical resection, a permanent colostomy would probably have prevented his continuing to follow his occupation involving an active outdoor life. Although it is possible that he is not cured of his cancer, he might have suffered recurrence or metastases following operation. The fact that he has now been living and is still following a gainful occupation comfortably for more than a year seems to justify the method of treatment.

In the third case the location of the growth above the rectosigmoid junction was a contraindication to electrocoagulation because of the difficulty of working through a long sigmoidoscope and the danger of carrying the coagulation too deep, thus perforating the gut. In spite of the most unsatisfactory result in this case, it must be remembered that surgery is also very unsatisfactory in dealing with carcinoma of grade 4 malignancy.

These patients were treated with a highly damped, bi-polar current generated by a stabilized spark-gap electrosurgical unit, i. e., an electrodesiccation current. From 40 to 60 per cent of the power of a heavy duty electrosurgical unit was used.

Summary

Electrocoagulation of cancer of the rectum has a place in treatment. It carries little or no operative mortality, minimum hospitalization and discomfort, in most cases avoids the necessity for a permanent colostomy, and permits the patient to continue to enjoy normal bowel function.

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ORAL SEPSIS

Its Relation to Abdominal Surgery

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The patient, the dentist, and the physician are greatly indebted to Frank Billings¹ for his epochal work upon focal infection. This work was carried on with the invaluable assistance of E. C. Rosenow. Starting in 1909, these men worked steadily on focal infection and a series of articles; beginning in 1912 and including the notable Lane Lectures given by Billings in New York in 1916, acquainted the medical and dental professions with the theory of focal sepsis and practically revolutionized our conception of the etiology of diseases. The fact that Hippocrates, who died 370 B.C., reported a patient whose rheumatism was relieved by the extraction of a tooth and that Benjamin Rush reported a similar case during the Revolutionary War cannot lessen our indebtedness to them; they were not only witnesses to the facts but realized their significance and told us of the rationale of the processes. There is virtue in simple observation. Laurels are won by understanding observation, and narration.

It is now generally understood that the term focal infection refers to the existence in some part of the body of a circumscribed area of tissue infected with pathogenic organisms capable of being disseminated through the blood stream or lymph channels in such a manner as to result in the infection of other contiguous or non-contiguous parts. As generally encountered in clinical medicine, the secondary infection has already occurred and the symptoms attracting attention are attributable

to it. The greatest skill is often necessary to determine the site of the primary focus of infection. This focus may be found in any part of the body and the subject of focal infection touches all medicine, so I have chosen to discuss those types of focal infection with which the dental profession is concerned and their relation to surgical diseases of the abdomen.

It is a general biologic law that vestigial structures and organs protect themselves less well than do organs essential to the economy of the organism. Their resistance to infection is less pronounced and they succumb more readily in unfavorable environments. During man's development there has been a tremendous increase in the size of his cranium for the accommodation of his cerebrum; this has been accompanied by atrophic or retrogressive changes in the facial part of the skull. A shortening of the body of the mandible with a consequent lessened room for eruption of the teeth has taken place, affording evidence that nature is assigning to the teeth a less important role in the life of man. A study of the natural history of man furnishes evidence in support of the same thought. We see him in his primitive state with prognathous jaw, tearing the flesh with strong and eager teeth from the body of his victim. Indeed, we require little imagination to conjure up before our mind's eye the part often played by the teeth in the kill of his prey. Barks of shrubs and bushes, as well as their tender buds, were torn from the plant by means of the teeth. Later the introduction of different instruments relieved the teeth of their work. The game was trapped or shot with an arrow; the grain was ground; and the meat was cooked. Still later the meat was cut with a knife, and the flour was bolted. Due to these changes in man's food habits, the teeth have lost their place as essential organs and have become more liable to infectious processes.

This concerns you as dentists and, as dentists, you are interested in the resulting type of oral sepsis. Vincent's stomatitis or trench mouth is not less interesting because it does not act often as a focus of infection, but I would call your attention particularly to periapical infections, to periodontal disease or pyorrhea alveolaris, and to residual foci

of infection so frequently found in edentulous mouths where portions of teeth are still harbored. Eusterman, in a study of 290 edentulous or partly edentulous mouths, found 129 roots or other evidence of residual areas of infection. You are familiar with the part played by these conditions as foci of infection. The predominant role they play in the etiology of abdominal diseases necessitating surgical relief is not so well known. C. H. Mayo stated that three-fourths of the work done at the Mayo Clinic was abdominal surgery, nearly all of which could be traced to mouth infections. Such infections are proved to cause hemorrhagic erosions in the duodenum or stomach, similar to the erosions produced experimentally in the rabbit. Clinically, these erosions are characterized by short periods of distress and abdominal discomfort accompanied by hemorrhage. Gastric and duodenal ulcers, cholecystitis, cholelithiasis, empyema of the gallbladder, appendicitis, and cancer of the stomach have been attributed to dental infection. Recurring infection of the urinary tract is regarded by many urologists as evidence of a focus of infection somewhere in the body and more frequently within the oral cavity. The patient suffering from chronic prostatitis, or recurring kidney stones should stop by and see the dentist on the way to his urologist, as dental infection is regarded as a definite primary focus in a large proportion of these cases.

Everyone is familiar with the vast number of cases of functional dyspepsia which are associated with and dependent upon oral sepsis; the patient quickly getting well when the infection in the mouth has been cured.

It has been very definitely shown that gastric and duodenal ulcers are frequently caused by periapical infection. The work of Haden and Bohan² who studied 17 cases of undoubted clinical gastric and duodenal ulcers is well known. They considered dental infection the primary cause in 12 patients and injected 45 rabbits with cultures from the dental foci found in 3 patients. Fifty-three per cent of these rabbits showed peptic lesions at necropsy while only 7 per cent of 535 controls showed peptic lesions at necropsy. In a review of 522 proved cases of peptic ulcer, Smithies attributed 173, or 33 per cent, to

infection. The treatment of peptic ulcer, whether medical or surgical, cannot be successfully concluded unless all possible foci of infection are eliminated, and the importance of sepsis in the mouth cannot be over-emphasized. Many clinicians are of the opinion that peptic ulcers show a great tendency to heal spontaneously if focal infection around the teeth and elsewhere is eradicated.

Gallbladder disease is essentially a disease of chronicity, gradually progressing over a long period of time. In the beginning it may be regarded as secondary to some focus of infection elsewhere, usually somewhere along the gastrointestinal tract. There is, however, excellent authority for considering dental infection as a causative factor. Moynihan³ considered the accessory nasal sinuses and the teeth as equally guilty with foci of infection in the digestive tract. Langstroth⁴ reported 4 patients with chronic disease of the gallbladder, two associated with alveolar abscesses, one with infected tonsils, and one with a chronic prostatitis. He believed that chronic infections in the teeth were responsible for the recurrent attacks of cholecystitis in most cases. The literature of focal infection abounds with references to acute exacerbations of cholecystitis produced by an aggravation of a condition of sepsis in the mouth or by the extraction of infected teeth. It also abounds with references to the cure of cholecystitis by the eradication of septic conditions in the mouth. Personally, I have been disappointed in this respect and am of the opinion that early elimination of such foci of infection may prevent the development of cholecystitis, but, that once the gallbladder has become infected, eradication of the primary focus will not cure the cholecystitis. The fact that the infecting organism is usually found within the walls of the gallbladder would tend to support the opinion of those who believe that an infected gallbladder becomes, very soon after its invasion, itself a focus of infection.

Inflammatory disease of the appendix is by far the most frequent cause for opening the abdominal cavity. The appendix closely resembles the faucial tonsils. Its walls are thickened with lymphoid tissue and crypts, such as are found in the tonsils, are present.

It may be correctly designated as an abdominal tonsil, not only because the abdominal surgeon serves it as the throat specialist serves the faucial tonsils, but also because its anatomic structure is so similar. As might be expected from this similarity, foci of infection in the tonsils are more closely associated casually to appendicitis than is any other single focus. Rosenow⁵ was able to obtain localizations in the appendices of a large number of animals using streptococci and other bacteria obtained from the tonsils. The culpability of foci of infection of dental origin for appendicitis has never been proved and the evidence is not sufficient to establish more than a casual relationship of this type of sepsis acting as a focus, to appendicitis. Landsdown and Williamson,⁶ however, believed there was a common cause for appendicitis and gastric and duodenal ulcer. If this is true, there can be little doubt that appendicitis may be caused by periapical infections, as they have been proven to be etiologic factors in the causation of gastric and duodenal ulcers. Their contentions were not adequately supported in their paper and are therefore susceptible to doubt, especially as other investigators have not been able to establish the guilt of dental foci of infection acting as a focus for appendicitis.

I have not the temerity to suggest that the cause for cancer of the stomach has been found in oral sepsis nor that oral sepsis plays the important role in the causation of gastric carcinoma that has been ascribed to it by some investigators. However, Goldstein⁷ made an interesting comparison of the degree of oral sepsis in 355 cases of carcinoma of the stomach: 80.2 per cent showing dental infection graded 2 or more, while only 44 per cent of 355 cases used as a control showed such a degree of infection. In the interpretation of such figures, it is necessary to keep in mind the fact that the specific cause for cancer has not been found, but that, of the many predisposing or contributing factors, the most important is frequently repeated low grade irritation such as the effect of a broken tooth or rough filling on the tongue in a septic mouth. Certainly, oral sepsis plays a part in the etiology of peptic ulcer which is recognized as the most important predisposing

factor in gastric carcinoma. It has been shown that the bacterial content of the stomach is markedly influenced by the bacterial flora of the mouth. The greater the degree of oral sepsis, the greater the irritation offered to a gastric ulcer, rendering the development of carcinoma more probable. As the germicidal value of the gastric juice is primarily dependent upon its hydrochloric acid content, oral sepsis is particularly direful in those conditions in which there is a deficiency of hydrochloric acid. In such conditions, streptococci have been found in the duodenum which is, normally, practically sterile. These organisms, having passed through the stomach, find a less unfavorable environment in the intestinal canal and may cause appendicitis or cholecystitis by direct invasion of the mucosa from the lumen of the appendix in one instance and by retrograde ascending infection through the bile ducts, through lymph radicals, or through the portal circulation, in the second.

Oral sepsis interests the abdominal surgeon not only because of its important place as an etiologic factor in such a large number of abdominal conditions demanding surgical intervention, but also because it so frequently becomes an etiologic factor in complications. Type IV pneumococcus, the ordinary pneumococcus of the mouth, is the predominant organism in postoperative pneumonia and in some hospitals it has been found that the incidence of surgical pneumonia has been lowered by treatment of oral sepsis previous to operation. Postoperative parotitis occurs most frequently as an infection ascending from a septic mouth along Stenson's duct. Neglected oral sepsis shortens the life of patients affected with carcinoma of the digestive tract and has a deleterious and baneful effect in health as well as in conditions of disease.

Gardner⁸ says that "Infection is often defined as the successful invasion of tissue by bacteria, with cellular change and inflammatory reaction. However, it may be possible that the toxin elaborated by bacteria at the root ends of teeth, or the organisms themselves, can injure some distant part without demonstrable dental symptoms either by roentgen ray or other examination. Thus it seems that teeth without symptoms of infec-

tion may be an etiologic factor in certain diseases. Price has often emphasized the fact that patients who have marked areas of rarefaction at the apices of pulpless teeth have greater resistance than those who do not. If this is true, it accounts for, at least to some degree, the variation in size of these areas that are found in the same patient, as it is to be expected that the resistance of these patients is much lower at one time than another.

"There are patients who have individual tendencies to destruction of bone at the apices of pulpless teeth and there are those who do not seem able to produce areas of rarefaction at the apices of pulpless teeth regardless of the manner in which they are treated. It is Rosenow's belief that certain strains of bacteria may account for destruction of bone."

Rosenow⁹ in a recent paper, read before the Chicago Dental Society at its seventy-first mid-winter clinic, stated that streptococci having peculiar cataphoretic velocity were isolated from pulpless teeth quite regardless of whether such teeth had been roentgenographically positive or negative; regardless of what method of treatment was used to prevent or eradicate infection following removal; or regardless of spontaneous death of the pulp.

I should like to emphasize several inferences that may be drawn from the evidence presented. At present, we are apt to neglect focal infections in the mouth, as elsewhere, until symptoms of secondary diseases develop. Foci of infection should be carefully searched for in all routine examinations by the physician and by the dentist, and eradicated while they are still silent. It should be remembered that our roentgenograms do not show periapical infections. It is true that roentgenograms will show osteoporosis or erosion of the root of the tooth, the results of infection; but frequently the infection has existed for a long time before this condition appears. This is proved by the fact that roentgenograms are frequently negative when a fistulous tract leads to the apex of a root and pus can be seen exuding from the tract. It is difficult to determine what attitude should be taken toward the removal of pulpless teeth. Bacteriologic examinations of the roots of these teeth show them to be infected in the majority of the cases, even when there is no

roentgenographic evidence of the infection. It appears radical to advocate the removal of all pulpless teeth, yet the dentist cannot take the responsibility for the patient's safety. Gardner is authority for the statement that no safe method of treating pulpless teeth has yet been found. Under these conditions, the general condition of the patient should determine whether the pulpless tooth should be removed. This demands cooperation on the part of the physician and dentist. The report of the physician's examination will give the dentist information that will help him to determine whether pulpless teeth should be removed.

The patient's physician is loathe to urge the removal of pulpless teeth even when there is definite evidence that the patient has a focus of infection somewhere, unless such a procedure seems advisable to the patient's dentist. The dentist is loathe to assume the responsibility of their removal, unless the physician endorses the extraction. The rational procedure is to allow pulpless teeth to remain unless the tooth presents positive evidence of infection or there is some systemic evidence of a focus of infection somewhere in the body and it cannot be found elsewhere. In the latter case the physician should assume the responsibility for the removal of the teeth.

In conclusion, all recognizable oral sepsis should always be attended to and cleared up before a patient is subjected to operation, except in cases of emergency surgery. Such a course will occasionally remove the necessity for surgery and will always assure the patient operated on a more rapid return to full vigor, and a convalescence less exposed to complications.

Conclusions

1. Infectious disease of the abdomen is dependent upon oral sepsis in a large proportion of the cases.
2. Edentulous gums may harbor root tips or fragments of bone which are active as foci of infection.
3. All pulpless teeth should be regarded as active or potential foci of infection.
4. The absence of evidence of infection in roentgenograms is an unreliable criterion in diagnosis.
5. Areas of rarefaction are regarded by many dentists as evidence of the patient's re-

sistance to the infecting organism rather than as evidence of the infection itself.

6. The dentist and the physician are alike responsible for oral sepsis and should cooperate in doubtful cases.

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CHANGING IDEAS IN THE TREATMENT OF MALIGNANCIES*

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The first worth while attack on malignant disease came with the advent of aseptic surgery. Within a few years the early masters of surgery had explored and practically exhausted the technical possibilities for that method in treating malignant disease. Of course, there has been some reduction of the surgical mortality and some improvement in results through persuading patients to come for treatment earlier, but there has been no real improvement in the surgical treatment of cancer of the breast since 1895.

The next major advance in the treatment of malignant disease came with the discovery of radium. This agent has a firmly established place in therapeutics and the technic of its use is being constantly improved, but I do not expect to see any new or revolutionary developments with it in the near future.

The third major weapon used in the treatment of malignancies is x-ray. Until about 1930 I feel that x-ray was of only minor importance in these conditions, but since then the method of its administration has changed completely and I believe that at the present time we are witnessing another major im-

*Read before the Thomas County Medical Society, Thomasville, December 16, 1936.

*Read before the Fourth District Medical Society, Thomaston, August 11, 1937.

provement in the treatment of malignant disease. I will have more to say concerning x-ray therapy later in this paper.

It is apparent that all three of these methods depend for success upon the total destruction of all cancer cells in one location. None of them, with the possible exception of x-ray, attempts to destroy cancer where it is not already definitely known to exist or where the likelihood of its existence is so strong as to be almost a certainty. For instance, none of them is ordinarily used with any success in the direct prevention or cure of distant metastases to the liver, lungs or bone. Under favorable circumstances, all three are capable of satisfactory destruction of the local growth, but that is not where the ultimate solution of the treatment of cancer lies—it is the prevention and cure of the distant metastases. In my opinion this ideal will never be accomplished by any method now known to the medical profession. Some systemic remedy—chemical or endocrine or serum—yet to be discovered is the goal we must all hope for. I am coming more and more to the conclusion that if cancer is not a systemic disease at the very outset that it becomes one (that it metastasizes) far earlier than we have been accustomed to think. Suppose we take a few examples for purposes of illustration.

Leukemia may not fall into an academic classification of cancer, but its behavior is such that I think it belongs there and I think of it as a generalized malignant change in the blood-forming organs which apparently affects all of them simultaneously. So far as I know, there is no evidence to show that it begins at any one spot and afterward spreads to all other blood-producing organs. If this be true, the causative agent must be systemic or general in nature and from the earliest beginning of the disease it is generalized.

I would also cite an actual case from my practice. A young woman came to me with a small black mole on her thigh; it was no larger than the head of a match. I recognized it as a melanoma and excised it widely with the actual cautery. There was never any local recurrence, but two years later general metastases appeared and within a few months she was dead. I do not see how this case could

have been diagnosed much earlier. That the local treatment was ample is evidenced by the lack of local recurrence. So I am forced to the conclusion that either the disease was generalized at the outset or that, figuratively speaking, when the first malignant cell divided, one remained fixed and the other metastasized. So far as the patient is concerned the discussion is merely academic as at the present time we have no systemic therapeutic agent of proved value, nor can we destroy a growth before we can diagnose it.

Or consider a patient with cancer of the breast who had a radical mastectomy in 1927. That was followed by x-ray therapy. There has never been any local recurrence, but in 1934, seven years later, she came back with generalized metastases to her bones. Here again the disease was widespread but lay dormant and symptomatic for six or seven years. In passing, I would also call your attention to the fact that a woman who has had cancer in one breast is five or ten times as likely to have cancer in the opposite breast as is a normal woman. This certainly indicates the systemic nature of the disease.

Or worst of all, a man now aged 70 recently came into my office with enlarged glands in his neck. One gland was removed for biopsy and was reported metastatic squamous cell epithelioma. Then on close examination and questioning I found a small scar on his lip where an epithelioma had been removed with paste 22 years before! No other primary lesion could be found. Think of it—those malignant cells had apparently lain dormant in the glands of his neck for 22 years.

Perhaps these cases are a little extreme, but many more like them could be cited to indicate the systemic nature of the disease. Two statistical papers recently published tend to bring out the same idea. Those authors were studying the duration of cancer from the time it really began until the death of the patient, rather than the duration of time from the first visit to physician to death, which makes a great difference in the results obtained. As a rule, the patients who are treated have had the disease a relatively short time, whereas the ones not treated have had the disease for a much longer time, because the far advanced

cases are frequently considered hopeless. Those men studied groups of treated and untreated cases for as long as 20 years and found that in major cancer, such as cancer of the breast, almost exactly the same per cent survived in each group. The average duration of life was much greater in the treated group; that is, a larger per cent of the treated group lived 5 years than those in the untreated group, and the same was true at 10 years, but to a less degree. However, at 15 and 20 years there was practically no difference in the two groups.

I made these statements and quoted these figures at another medical meeting recently and, much to my horror, a few weeks later I discovered that some of my hearers had quoted me as saying that there was no use in trying to treat patients with cancer because they all died anyway. I hope none of you arrive at the same conclusion for a great deal can be accomplished in the prolongation of life in comfort of cancer patients, even if it be true that they all do die if they live long enough.

I am of the opinion that our patients will be better served when we begin to think less of permanent cures and more of their welfare in terms of the prolongation of their lives in comfort and happiness. We should think of cancer in much the same way that we think of diabetes, nephritis and organic heart lesions. We do not talk about cures in those conditions. By this I mean that in the past we have frequently actually shortened the lives of some of our patients and made others more miserable by attempting impossible cures. Almost every day we say "This is a bad case, but I want to give him his chance and so I will do the radical operation." This attitude is usually justifiable in inflammatory or obstructive conditions but I am sure it is worse than useless in dealing with cancer. I am a surgeon by training, and I love it, but in the future I expect to see less and less radical surgery done on moderately advanced and advanced malignancy. The proper time for a radical surgery is in *the early cases and only there*.

What then have I to offer this large group of unfortunates upon whom I refuse to operate? X-ray therapy as now administered by the Coutard method is a most effective therapeutic procedure. Properly used, I am convinced that it offers more prolongation of life

and comfort in living than does surgery when the disease is beyond the early and easily operable stage. And even the early and borderline operative cases should have x-ray therapy before operation, rather than afterwards, because such treatment frequently causes complete or almost complete disappearance of the tumor and occasionally the pathologist is unable to find any malignant cells in the microscopic sections. I, therefore, have every reason to think that local recurrence and metastasis will be less likely.

My personal experience with this method has now extended over a period of only 4 years so I have not attempted statistical studies. However, you might be interested in some of my immediate results. I have seen inoperable breast cancer with glands in the axilla and above the clavicle disappear and not reappear during 3 years of observation. I have seen a malignant tumor that completely filled the bladder disappear so that 3 years after the original course of x-ray treatment the only remnant of the growth left was a small papilloma the size of a butterbean just under the symphysis pubis; a second course of treatment has been given to try to destroy that. That patient is symptom free and leads a normal life. Recently I saw an epithelioma of the larynx with a metastatic gland disappear completely and not recur for 2 years. It is more difficult to determine the value of x-ray in malignancies of the cervix as treatment is always combined with radium, but there is every reason to expect improvement in the results.

Personally, I do not expect a satisfactory cure for cancer to develop from the use of more radical surgery, larger quantities of radium or from x-ray machines operated at super-voltages. I have seen and heard of various serums, colloids of lead and other metals, all of them supposed to be the elixir of life so greatly desired by the victims of cancer and longed for by all of us who attempt to treat these unfortunates. So far I have been disappointed and, until some systemic remedy of proved value is discovered, all of us must continue in our efforts to prolong life in comfort with the three methods that have stood the test of time and experience. At the present moment x-ray therapy seems to offer more hope of improvement in our results than may be reasonably expected from the other two.

DANGEROUS DRUGS IN DAILY USE

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In designating a drug as "dangerous" I mean to imply that its normal exhibition may be followed by some degree of deviation from the normal or average effect. I am not in general referring to the drugs which by reason of their excessive use or overdosage give rise to poisoning, for these effects are usually quite distinct, being for the most part marked exaggerations of the therapeutic effects and depending upon the same fundamental actions. Rather, I am considering particularly those drugs which frequently give rise to abnormal—allergic or idiosyncratic—responses.

Fortunately the danger of administering many drugs is negligible, for only rarely do they cause undesirable responses. On the other hand, some drugs cause undesirable responses so frequently that their use is attended with some degree of danger.

For convenience of discussion I shall consider these offenders under the respective pharmacologic groups.

In our entire materia medica no other group of drugs is so widely used, or more grievously misused, as the evacuants. Much could be said about this, but my purpose is less general, so, specifically, the first drug which I wish to incriminate is phenolphthalein. This chemical is, as you know, the main or sole active ingredient of innumerable proprietary cathartic preparations. For years it was considered to be practically non-toxic, but physicians have realized for some time that this is far from the truth; its use is attended with real danger, since it has been followed by death. A dermatitis is the most characteristic reaction, and the dermatitis is practically identical with the eruption caused by amidopyrine, antipyrine and the arsphenamines. Newman (*J. A. M. A.* 101, p. 761, 1933) has considered the problem and lists eighteen atypical cutaneous manifestations and four non-cutaneous manifestations, which latter may well be mentioned: (1)

lipoid nephrosis, (2) toxic nephritis with persistent hematuria, (3) visceral hemorrhages and (4) ulcerative colitis. One is impelled to comment that the ease with which a drug may be given or taken is not alone sufficient reason to justify its use. Rhubarb also may cause skin eruptions.

The cathartic resins such as jalap, colocynth and podophyllum are highly irritating, and their repeated use or failure of complete removal may cause severe enteritis.

A second widely used and much misused group is the analgesic-antipyretic group. Several types of abnormal reactions are not uncommon with these drugs. One will think immediately of the work of Kracke and others, which proves that amidopyrine most frequently, and acetphenetidin, antipyrine and acetanilid occasionally, are factors in the etiology of certain blood dyscrasias, especially granulocytopenia. This point is already well fixed in our minds, but other abnormal responses are too frequently seen to be disregarded. Any member of this group when used to treat hyperpyrexia may lead to collapse, and it appears that acetanilid is the most serious offender. Their use may result in skin eruptions, and acetanilid and acetphenetidin often cause the formation of methemoglobin and even some destruction of the cells of the blood. Occasionally other abnormal responses such as renal irritation and gastric irritation are met with.

The abnormal responses so frequently encountered with the therapeutic use of quinine, quinidine and the salicylates are so well known to you that any specific mention here would be superfluous. I would like to add, however, that in the light of the new "Short Treatment" of malaria with quinine, it would appear that excessive dosage with this drug would now be rarely necessary. In this connection we might recall that atabrin, an acridine dye derivative, while apparently of low toxicity, usually causes a transitory coloration of the skin, which may cause a patient unnecessary alarm if he is not warned. Also that an effective dose of plasmochin seems to be very dangerously close to the toxic dose.

Cinchophen has been in clinical use since about 1908, and some of its related compounds such as neocinchophen, atoquinol,

chloroxyl and oxyliodide compound a fewer number of years. For nearly two decades this type of compound was considered to be practically non-toxic, and it was not until 1923 that Worster-Drought described the occurrence of jaundice after the use of cinchophen. The literature from 1922 to 1931 reports thirty fatal cases and forty-five serious intoxications resulting from the use of cinchophen or its related compounds. Since 1931 reports appear to have become more frequent, until at the present time one can look through scarcely an abstract journal without seeing one or more such reports. In fatal cases autopsy usually reveals yellow atrophy of the liver and some degeneration of the myocardium and the kidneys. In non-fatal cases recovery is extremely slow. If these drugs are to continue in use, their exhibition should be very carefully followed, and it is now being questioned that even this is sufficient to guard the patient against the chance of serious poisoning. Should such drugs be used at all?

Let us consider next a large group of drugs, the narcotics, alcohol, the hypnotics and the general anesthetics, whose fundamental action is depression, in varying degree and manner, of the central nervous system. The members of these subgroups are of great therapeutic significance because of their wide application in medicine, and some of the drugs are of great sociologic significance because of the common abuse by many individuals. The fact that the action of these members offers such an absorbing release of the individual from reality, constitutes the most serious danger—that of habituation or addiction. It is well recognized that under certain conditions the development of habituation or addiction is the lesser of two evils, and I do not refer to this use. Quite the contrary, but the more or less unrestricted use of some of these drugs is to be guarded against in psychically unstable individuals, who, more than any others, are most likely to come to depend upon the bolstering up of personality which the central depression secures for them. We have hopes of drugs being synthesized which will produce the desirable effects of the narcotics and not lead to addiction, but at the present time we have none. Certainly the

data at hand do not permit us to admit that the new drug dilaudid lacks this danger. Codeine probably rarely if ever leads to addiction, but it as well as morphine, pantopon and dilaudid, may occasionally give rise to extreme nervousness, excitement and even delirium, instead of the normal depression and sedation.

The hypnotics, especially the barbiturates, may be habit-forming, though less so than alcohol or the narcotics. The barbiturates, however, cause amnesia and thus permit dangerous overdosage by individuals when the drug is readily available. For this reason their sale should be restricted, it seems. It is not unusual for the hypnotics to produce marked skin reactions.

Chloral hydrate, having in its molecule a halogen, may produce dangerous degenerative changes in the liver, as may chloroform and tribromethanol (avertin) as general anesthetics, and carbon tetrachloride as an anthelmintic. Parenthetically, it may be worth recalling that chloral hydrate is eliminated from the body largely by way of the kidneys in the form of glucuronate of trichlorethyl alcohol, and this being a reducing substance produces a reduction of Fehling's Solution or Benedict's Solution, which might be mistaken for the characteristic reduction obtained in glycosuria.

In the Journal of the American Medical Association (105: p. 804, 1935) under the caption "Dangers of Slimming," attention is directed forcefully to one of the more recently introduced dangerous drugs, dinitrophenol. Very shortly after its introduction, evidence indicating the dangerous nature of the drug was presented, and since the numerous clinical reports have supported amply the first warnings. The drug has been shown to be an etiologic factor in certain cases of granulocytopenia. Its use is frequently attended with skin eruptions which "may be dangerous to life," and more recently data have been presented which point convincingly toward an etiologic relationship between prolonged ingestion of dinitrophenol and rapidly developing cataracts. It is evident that even with careful clinical control and observation the dangers are too great to justify its use, and almost unimaginable harm can result from the salesmanship tactics of "patent remedy" ven-

dors. The drug now forms the basis of a dozen or more quack remedies such as Slim, Nitranet, Dinitrolac, Nitra-Phen, Dinitriso, Formula 281, Prescription No. 17, Dinitrol, Dinitronal, Dinitrose, Re-Du, Redusols, Tabolin, etc. It would again seem that the sale of this drug must be restricted. Do we not need legislation, Federal preferably but lacking this, State, which will protect the public from such dangerous exploitation?

It has long been known that the use of thyroid extract, or thyroxin, as a weight reducing agent is not without danger, as is also true of its use in hypothyroidism, but the danger is not to be compared with that of the drug dinitrophenol. It is unfortunate that it was ever introduced.

In a general way the drugs used as antiseptics and disinfectants seem to be quite safe and rarely, even with only moderately judicious use, lead to poisoning or abnormal reactions. There is one striking exception, however: A number of years ago when silver nitrate was administered orally in the treatment of gastric ulcer, it was not uncommon for argyria to develop. The realization of this danger led to the abandonment of such a use, and for years argyria was rarely heard of. At the present time its incidence is on the increase, due, very largely, to the unwise or prolonged use of the silver-protein combinations, silvol, neosilvol, argyrol, protargol, argyn, etc., usually in the eyes or nose. Irrigation of the bladder and urethra, if sufficiently repeated, with dilute silver nitrate solutions, may also lead to argyria. This silver poisoning depends solely upon the absorption of sufficient amounts of silver ion to lead to an appreciable deposition in the connective tissue of the corium, and it is practically permanent. Over-solicitous mothers might well be advised to guard against such branding for life of their children.

The last group of drugs which I wish to consider is the metals—the metaloids arsenic and bismuth, and the heavy metal thallium. The toxic and side-actions of the arsphenamines are well known, as they should be, for they are of considerable clinical importance. They have been conveniently grouped by Sollmann, as follows: A. Those reactions occurring immediately, that is within a few

minutes, and are anaphylactoid (nitritoid) in nature. B. Those occurring early, that is within one to four hours, or C. Those occurring belatedly, or after twenty-four hours; both of these groups being characterized by febrile, gastro-intestinal, kidney or skin reactions. D. Those severe reactions which appear after three days or so, and consist of exfoliative dermatitis, hemorrhagic encephalitis or grave icterus. E. Neurorecurrences. And we may add now granulocytopenia and purpura.

Abnormal reactions following the administration of the bismuth preparations in the treatment of syphilis are not common, but they do occur occasionally, especially in sensitive individuals and they may resemble the severe late reactions caused by the arsphenamines included in D above. One bismuth salt much used as a locally acting drug is bismuth subnitrate. The continuous use, or the administration of a single large dose, of this compound has led to nitrite poisoning—methemoglobinemia, cyanosis, dyspnea and even death. Small doses may have some value in hypertension, but this is questionable, and its routine use in other conditions seems hardly justified when an entirely safe preparation, the subcarbonate, is available.

The use of thallium acetate as a temporary depilatory in ringworm of the scalp is scarcely justified since it is so frequently followed by severe or fatal poisoning; and its use should undoubtedly be discontinued.

GRADY E. CLAY and J. MASON BAIRD, Atlanta, Ga. (*Journal A. M. A.*, Oct. 3, 1936), state that grafts from the prepuce and labia minora have not heretofore been used for conjunctival grafts and it is the ideal tissue as a substitute for conjunctiva. There is plenty of tissue available for such grafts and it has all the appearance of perfectly normal conjunctiva a very short time after it has been grafted. The graft from this source is very thin and contains no hairs and very little subcutaneous fat. It has a pinkish color and can easily be cut to fit the area desired. The mucous membrane of the vestibule of the vagina (between the inner margins of the labia minora and the outer margin of the hymen) is smooth, glistening and devoid of glands and of hair follicles. Such a graft is easily obtained from this region of the female external genitalia, and subsequent healing leaves no deformity. The skin from the prepuce is obtained by a circumcision, special care being used in the preparation, and as much as possible of the inner surface being employed, for here the skin is much more like mucous membrane.

A MODIFICATION OF THE VISSCHER-BOWMAN PREGNANCY TEST

Report on 1,180 Cases†*

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C. Dolff reported in 1936 that the Visscher-Bowman pregnancy test was 95 per cent correct on occasions in which it was used to diagnose normal pregnancies and also in 82 per cent of cases of ectopic pregnancy and miscarriage.

The Visscher-Bowman test is purely chemical, the reaction depending supposedly on the presence or absence of anterior pituitary hormones in the urine. It is performed as follows:

To 1 c.c. of urine are added one drop of 1 per cent hydrogen peroxide, 5 drops of 1 per cent phenylhydrazine, hydrochloride solution (watery), 5 drops of 5 per cent watery methyl cyanide solution, and 5 drops of concentrated hydrochloric acid; the mixture is heated for 25 minutes in a water bath. The test is positive if a reddish-brown flocculent precipitate is observed; if the color remains straw yellow and the deposit is powdery or absent, it is negative.

From the urine of 54 proved pregnant women, Dolff's series yielded a positive result in 51 cases, or 96 per cent. In 18 cases of early pregnancy the test was accurately diagnostic except for one false positive. Dolff believes that the source of error is a high concentration of catabolic reducing substances in some specimens of urine, and with these eliminated the percentage accuracy of the test will increase.

Author's Series

In the May 1937 issue of the *American Journal of Obstetrics and Gynecology* was published a report of 513 observations; 420 of which were sent to me by a staff member from his private practice. They were numbered, and I never saw the patients. That series has now increased to 1,012 cases, and in addition there is added a second series of 34 cases tests run on normal males and non-pregnant females, and 24 cases on patients suffering with diabetes mellitus. Each set of specimens was run with a control tube which contained urine of a non-pregnant female as confirmed by the Aschheim-Zondek test. In the series 47 specimens were checked by the Aschheim-Zondek test. Thirteen specimens were from patients who had incomplete abortions, and five specimens were from women who had dead fetuses. One specimen was from a patient with suspected teratoma of the testicle; two were from women who had ovarian tumors the nature of which were not determined as the patients refused

operation. Five specimens were from women with suspected ectopic pregnancy. As described in the previous report 6 drops of each of the reagents were used and the specimens were heated in boiling water 45 minutes, thus a better and more easily read result was obtained. In tests in which it was difficult to differentiate between a flocculent and a powdery precipitate, especially when the quantity was very small; the tube was held over the convex reflecting mirror of a microscope at an angle of 45 degrees and the precipitates viewed in the mirror as described in the first report.

Of the 47 cases checked by the Aschheim-Zondek test, there were 26 positive, 13 negative; 6 false positive reactions, and 2 false negative reactions, an accuracy of 83 per cent.

Of the total series of 1,012 there were 147 cases in which the test was in error, or gave a false positive or negative reaction, the percentage of error being 12.9 per cent with 87.1 per cent correct results. Thirty-five of these were false positive reactions and 78 were false negative reactions when the patients were known to be from 4.5 to 9 months pregnant.

Of the 34 cases run on males and non-pregnant females, between the ages of 13 to 60 years; in the female series 12 were negative and 6 positive; in the male series 16 were negative, and ten positive. Thirty-four patients 6 weeks postpartum gave a positive reaction.

Sheehan reported a series of 38 tests in males from 1 to 12 years of age, 21 per cent were negative; 79 per cent were positive. He also reported 72 tests on males 12 to 80 years, 24 per cent were negative, 76 per cent were positive results. Females 1 to 12 years 39 tests, 5 per cent negative, 95 per cent positive. Non-pregnant females 12 to 81 years in which no Aschheim-Zondek was done in a series of 66 tests 15 per cent gave a negative and 85 per cent a positive result. Of 172 females with a negative A.Z. tests checked by the Visscher-Bowman pregnancy test Sheehan obtained 14 per cent negative results and 86 per cent positive results. In another series of 88 cases in which the A.Z. was positive he reports 9 per cent were negative and 91 per cent were positive when checked by the Visscher-Bowman test.

This series closely agrees with the results obtained in my series on known pregnant women in which 83 per cent of the tests checked against the Aschheim-Zondek gave positive results. Sheehan also reports 61 tests run on patients from 4 to 9 months pregnant with 10 per cent negative results, and 90 per cent positive results again agreeing closely with 87.1 per cent obtained in my series. In his 56 cases in which catheter specimens were obtained just before delivery Sheehan reports 30 per cent negative and 70 per cent positive reactions which also agrees closely with 20 per cent negative and 80 per cent positive results obtained in a similar series of my own. My second series of 68 cases in

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†I am greatly indebted and wish to express my appreciation to Drs. A. J. Kilpatrick and J. W. Thurmond and to their secretary, Miss Iona Schaufele, for their assistance in furnishing specimens for this work.

males and non-pregnant females from 15 to 75 years yielded a percentage of correct results of 57.4 per cent with 42.6 per cent error which also closely agrees with Sheehan's series.

Sheehan states that the Visscher-Bowman test is not a chemical test for pregnancy as positive tests were obtained with urines from males, non-pregnant females of various ages and children below the age of 12 years. In this series no tests were run on children. Sheehan also ran the test on aqueous solutions of estrin (theelin and progynon), in much greater concentration than normally found in the urine of pregnant females with negative results; and concluded that the Visscher-Bowman test was neither a test for certain hormones associated with pregnancy nor pregnancy. He believes, however, that the test is in reality a change in the normal urinary pigment (urochrome) induced by heating with strong mineral acids and resulting in the production of the red soluble and black insoluble melanin like substances, and that the solution of this problem may solve the problem and its metabolism.

Summary and Conclusions

Series No. 1

| | |
|------------------------------------------------------------------------------------------|-------|
| Total No. of tests performed..... | 1,180 |
| Total No. of tests in error..... | 147 |
| Total No. of tests in women pregnant from 2 weeks to 9 months with positive results..... | 829 |
| Total No. of false positive reactions obtained..... | 35 |
| Total No. of false negative reactions obtained..... | 78 |
| Total No. of tests in incomplete abortion..... | 13 |
| Total No. of negative reactions obtained in incomplete abortions..... | 2 |
| Total No. of positive reactions obtained in incomplete abortions..... | 11 |
| Total No. of tests on suspected ectopic pregnancy..... | 5 |
| Total No. of false positive reactions in ectopic pregnancy..... | 2 |
| Total No. of false negative reactions in ectopic pregnancy..... | 3 |
| Total No. of tests on dead fetuses..... | 5 |
| Total No. of positive tests in patients with dead fetuses..... | 1 |
| Total No. of negative tests in patients with dead fetuses..... | 3 |
| Total No. of tests checked by the Aschheim-Zondek..... | 47 |
| Total No. of tests checked by the Aschheim-Zondek with positive results..... | 26 |
| Total No. of tests checked by the Aschheim-Zondek with negative results..... | 13 |
| Total No. of tests checked by the Aschheim-Zondek with false positive results..... | 6 |
| Total No. of tests checked by the Aschheim- | |

| | |
|-----------------------------------------------------------------------------------------|------|
| Zondek with false negative results..... | 2 |
| Total No. of tests checked by the Aschheim-Zondek in error..... | 8 |
| Percentage of error in 47 cases checked by the Aschheim-Zondek..... | 17 |
| Percentage accuracy in 47 cases checked by the Aschheim-Zondek..... | 83 |
| Total No. of positive reactions obtained in patients 6 weeks postpartum..... | 34 |
| Total No. of cases in which catheter specimens obtained just before delivery..... | 60 |
| Total No. of negative tests obtained by catheter just before delivery..... | 12 |
| Total No. of positive tests obtained by catheter just before delivery..... | 48 |
| Percentage of positive results obtained in catheter specimens just before delivery..... | 80 |
| Percentage of negative results obtained in catheter specimens just before delivery..... | 20 |
| Percentage of error of entire series..... | 12.9 |
| Percentage of correct results on entire series..... | 87.1 |

Series No. 2

| | |
|---------------------------------------------------------------------------------------------------|------|
| Total No. of tests on normal males with negative results..... | 16 |
| Total No. of tests on normal males 26 to 75 years with positive results..... | 10 |
| Total No. of tests on diabetic males 13 to 60 years with negative results..... | 6 |
| Total No. of tests on diabetic males 13 to 60 years with positive results..... | 6 |
| Total No. of diabetic females (non-pregnant) 15 to 69 years..... | 12 |
| Total No. of tests on diabetic females (non-pregnant) 15 to 69 years with positive results..... | 7 |
| Total No. tests on diabetic females (non-pregnant) ages 15 to 69 years with negative results..... | 5 |
| Total No. tests on normal non-pregnant females..... | 18 |
| Total No. tests on normal non-pregnant females with a negative result..... | 12 |
| Total No. tests on normal non-pregnant females with a positive result..... | 6 |
| Total No. tests in this series..... | 68 |
| Total No. tests in this series in error..... | 29 |
| Total No. cases in this series with correct results..... | 39 |
| Total percentage error in this series..... | 42.6 |
| Total percentage correct results in this series..... | 57.4 |

This work done independently and without knowledge of Dr. Sheehan's work seems to confirm his work and leads me to the conclusions:

The Visscher-Bowman pregnancy test is not a chemical test for pregnancy, positive results having been obtained from males, non-pregnant females, diabetics and cases 6 weeks postpartum.

That the urine of diabetics which contains sugar will also cause a reaction similar to the supposedly positive reactions.

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URINARY ANTISEPSIS

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The extraordinary interest shown in urinary antiseptics lately may be attributed mainly to two factors: First, recent advances in chemotherapeutic measures; second, the continued great need for agencies to control and cure urinary infection. The idea that "multiplicity of remedies advocated for the treatment of any one disease indicates poverty rather than wealth in therapy" is well illustrated by the past history of urinary antiseptics. The employment of these agents has been a "hit or miss" proposition with a preponderance of misses. During the past two years this has been changed by the advent of ketogenic diet, mandelic acid, and sulfanilamide. The ketogenic diet brought forward a new line of reasoning and investigation, which resulted in the introduction of mandelic acid. Both are active in about the same concentration and the same pH level. The pH required is between 5.0 and 5.5. Their effectiveness is prevented by conditions which hinder this high degree of acidity, as in impaired renal function and infections with the urea-splitting organisms, such as the proteus group. Mandelic acid seems to act upon gram-negative bacilli and also upon the staphylococcus aureus and the notoriously resistant streptococcus faecalis. Patients most in need of ketogenic diet and mandelic acid often are unable to tolerate these remedies.

Sulfanilamide has aroused much well deserved enthusiasm. In numerous instances the results have been spectacular, with startling cures of many different types of infection, both acute and chronic. Apparently it reaches its greatest effectiveness against the various strains of cocci. It seems to act upon infections in all parts of the body including the urinary tract, and extends its bacteriostatic and bacteriocidal power to the urine itself. Not all pathogenic organisms are killed by sulfanilamide. The spirochaeta pallida and streptococcus faecalis are notable exceptions. Protected foci of infection such as closed abscesses are resistant to its action. With infection controlled in surrounding tissues, however, the patient undergoes the necessary cor-

rective procedures with less likelihood of complications and greater chance of success. The chief disadvantage of sulfanilamide lies in its toxic effects. None of the other chemical agents employed to control infection is likely to cause such a variety of mildly disturbing and at times dangerous reactions. Most of the unpleasant symptoms clear up promptly when the drug is discontinued. Occasionally there is a progressive destruction of red blood cells, resulting in methemoglobinemia and sulphhemoglobinemia. Less frequently granulocytopenia is produced. Transfusions may be required to restore the depleted red cells. Careful observation during the administration of this potent drug is essential. Saline purgatives should not be given to patients taking sulfanilamide.

With infections which resist sulfanilamide artificial fever is of distinct value. The combination of sulfanilamide and artificial fever, thermochemotherapy, enhances the therapeutic value of both of these measures and lessens the disadvantages of each. So combined, good results can be obtained at a lower temperature and shorter fever period and the duration of sulfanilamide treatment can be lessened. The fever operates like a call to arms, mobilizing and activating nature's defensive forces. It is analagous to the gas attack preceding a battle. When handicapped by gas the enemy is more easily subdued by gunfire and bayonet.

At present the most popular of the older antiseptics are methenamine and pyridium. The effectiveness of methenamine depends upon its conversion into formaldehyde in the urine. For this change an acid medium is required, but not the high degree of acidity that is necessary for ketogenic diet and mandelic acid. The most common reason for failure of methenamine is inadequate dosage, a factor that is quite unnecessary in view of the fact that large doses are safe. It rarely causes toxic reactions, although tenesmus from formaldehyde is not infrequently seen.

Pyridium is at times a useful urinary antiseptic and sedative. Its soothing effect upon inflamed mucous membranes, relieving frequency and cystitis-like discomfort, is of more value than its germicidal power. Pyridium has the advantage in being equally effective in an acid and alkaline medium.

THE PRESIDENT'S PAGE

BETTER PUBLIC HEALTH FACILITIES; MORE COMMUNITY HOSPITALS IN RURAL AREAS; AND REDISTRIBUTION OF OUR PHYSICIANS

The census of Georgia in 1936 showed 3,053,387 people. The urban population was 933,758, the rural 2,119,629. There were 65 per cent whites and 35 per cent negroes, divided as follows: under five years of age, 10.9 per cent; twenty-one years and over, 51.6 per cent; and thirty-five years and over, 29.9 per cent.

The eight principal causes of deaths in 1936 were: heart disease, pneumonia, nephritis, accidents, cerebral hemorrhage, apoplexy and embolism; influenza, cancer and tuberculosis, in the order named.

The average age at death in 1900 was 27.4 years; in 1936 it was 44.9 years, an increase of 17.5 years in the last thirty-five years. Babies born in Georgia during 1937 may expect to live on an average of sixty-one years.

The above benefits in regard to longevity are due principally to the work of our State Health Department, whose major objectives during the past years have been: the distribution of preventative medicine to the places where most needed—the large rural areas of our State—and the control of communicable diseases such as malaria and tuberculosis.

Georgia is the first Southern State, and the fourth in the United States, to recognize cancer as a public health problem by setting up a Division of Cancer Control and by giving State-aid in the treatment of indigent sufferers from this disease. The distribution of cancer treatment centers over our State will soon bring cancer patients under better control.

The tuberculosis death rate is declining faster in Georgia than it is in the United States as a whole, due largely to the wonderful work of our State Department of Public Health.

Georgia has two class A medical schools. Their graduates average not more than one hundred for any year; ninety-five this year. There are approximately seventy-five graduates each year from the one dental college in Georgia. During the last five years our population per physician has increased 112, and



our number of physicians during the same time decreased 144.

There are about eighty hospitals in Georgia, located in twenty counties, mostly in our large urban areas. One hundred thirty-nine counties have no hospital facilities for the adequate medical and surgical care of their large rural population; two counties have neither physician nor dentist. We need more hospitals in some of our large rural counties, or several small counties could combine in such effort. The hospitals should be county owned, or privately owned with county help, to take care of indigents. The staffs of our smaller hospitals should be encouraged to diagnose cancer and tuberculosis early and treat such patients immediately; also to provide unlimited laboratory facilities to the rural practitioners in surrounding districts.

Our young doctors should be encouraged to go back to the rural districts and carry their services to the people that need it, thereby rendering a great aid to our rural citizens, while making for themselves a place worth while. We must offer these physicians unlimited hospital and laboratory facilities; we cannot expect them to go back to our 139 rural counties without hospitals unless we provide them a place to carry on the training they received in our medical schools and large city hospitals.

The distribution of adequate medical and surgical care is the aim of our Association, and should receive the wholehearted support of every civic club in Georgia in regard to more rural hospitals, and local financing for the care of our indigent citizens.

GRADY N. COKER, M.D.

THE JOURNAL

OF THE

MEDICAL ASSOCIATION OF GEORGIA

Devoted to the Welfare of the Medical Association of Georgia

478 Peachtree Street, N. E., Atlanta, Ga.

JUNE, 1938

MALARIA DESTROYS HOMES AND STUNTS COMMUNITY GROWTH*Progressive Georgia Communities Using Control Measures Have Added Advantages*

History has repeatedly recorded the decay of civilizations, due, it is believed, largely to malaria. It is estimated that three-fourths of the population of the world lives in the malaria belt, therefore it is a great economic as well as health question. What has happened to the world at large has happened many times to various communities in Georgia and will continue to recur where control measures are not put into effect and wherever they may be discontinued.

Some authorities state that malaria does more damage to our people than typhoid fever, dysentery, pellagra and tuberculosis combined. This is true in many sections of our State, as emphasized in a federal bulletin of 1914 which records reports of malaria during that year in every county in Georgia except seven. Rapid transit and roving habits of our citizens now spread this disease more rapidly and more completely, both through man and mosquitoes. Just as insect life cripples communities by destroying plant life, so does malaria inhibit normal growth of commodities and individuals, thus dwarfing or destroying income and health.

Statistics are available showing that in one Georgia county there was sold during a year through local drug stores ten thousand dollars' worth of so-called antimalaria drugs for self-medication. This amounted to about three mills of the tax assessment. The same funds, doubtless, if placed in the hands of public health officials would have eradicated or controlled malaria, thereby probably increasing land values greatly and placing the community in line for industrial plants,

bringing payrolls which produce growing communities.

There are sections in Georgia that failed to persuade owners of industrial plants to locate in certain communities that had the most favorable offers, due solely to reports of malaria by agents sent out to study and investigate health conditions. Naturally when this information was received these operators knew that labor would be not more than fifty per cent efficient due to malaria, so these communities were no longer favorably considered.

A number of counties in Georgia have already instituted malaria control measures, in some instances through slight increase in taxes, and within ten years have noted marked increase in land values and location of industrial plants, necessitating the erection of many stores and homes. Meanwhile, chambers of commerce are advertising these communities and cities as places where health and happiness may be enjoyed without fear of the "grim reaper's" chief tool—malaria.

Malaria control comes about chiefly through engineering methods. Engineers are deeply interested in public health and know the economic short-cuts and are eager to point them out to all interested communities. So the citizens of Georgia are urged to wake up and start malaria control measures in every community where needed. In some counties it may be expensive, in many others comparatively inexpensive; but regardless of cost, delay cannot be afforded and in many instances it means decay.

J. A. REDFERN, M.D.

WHEN PIG EATS PIG

The disease of trichinosis is much more common than most people think. It is true that reports reach Albany at fairly regular intervals of cases of this disease in upstate New York. Recently there was an outbreak in the city of Batavia and a man died of trichinosis in Niagara Falls but the most astonishing evidence of the prevalence of the disease comes from the finding of the encysted *Trichina* worm in the muscles of those who die from other causes.—Health News, State Department of Health, Albany, N. Y., May 9, 1938.

From a chart prepared in Health News, Albany, N. Y., prepared by the United States Public Health Service; it shows that California has the highest trichinosis morbidity of any state in the U. S.; Maine second and New York third.

STUDY OF MEDICAL CARE

Conducted by the
AMERICAN MEDICAL ASSOCIATION

The American Medical Association will supply forms to state medical associations for distribution to all county medical societies for each to conduct a Study of Medical Care within its county or where a local society is composed of more than one county, it should include all counties which comprise the society. When the Study is completed, a condensed report should be made out in triplicate. One copy should be filed by the county society, one mailed to the American Medical Association, 535 North Dearborn Street, Chicago, Ill., and one to the Medical Association of Georgia. Numbers and titles of forms follow:

1. Information Concerning Medical and Dental Practice.
2. Information Concerning Hospitalization.
3. Information Concerning Nursing Services.
4. Information Concerning Health Department Activities.
5. Information Concerning Medical Services Arranged for or Provided by Private or Governmental Welfare and Relief Agencies.
6. Information Concerning Health and Medical Services Arranged for or Provided by Public, Parochial, and Private Schools Below the College Level.
7. Information Concerning Health and Medical Services Arranged for or Provided by Colleges and Universities.
8. Information Concerning Medical Services for or Provided by Industrial, Fraternal, Mutual Benefit, Group Hospitalization, Community Health and Other Similar Organizations or by the County Medical Society.
9. Information from Pharmacists. Instructions for Form No. 9.
10. Summary Sheet to be Used by County Medical Societies for Recording the Summarized Information which is Collected from Various Sources on Forms 1-9 inclusive. A sheet of Instructions will Accompany the Summary Form.

The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.

The ninetieth annual session of the Medical Association of Georgia will be held in Atlanta, May 9, 10, 11, 12, 1939. Titles of papers to appear on the program should be submitted to the chairman of the Committee on Scientific Work or the Secretary-Treasurer.

PROCEEDINGS OF THE HOUSE OF DELEGATES
OF THE
MEDICAL ASSOCIATION OF GEORGIA
APRIL 26-29, 1938
Augusta

Abstract of Proceedings

MEDICAL CARE: Adopted the recommendation of the President that the medical profession assume leadership in providing medical care for the indigent.

PUBLIC RELATIONS BUREAU: That compensation for the Secretary-Treasurer be increased \$50 per month for additional work for the Public Relations Bureau.

EXECUTIVE COMMITTEE: That an Executive Committee be created composed of the President, President-Elect, Chairman of the Council and Secretary-Treasurer which may attend to business of minor character subject to the approval of the Council; also that the actual expenses of the Executive Committee be paid by the Association.

MEDICAL EDUCATION — RURAL PRACTITIONERS: That the President appoint a committee to study plans whereby students may receive medical education without expense to themselves if they agree to practice for a certain number of years in rural communities of this State. Report to be made to the House of Delegates in 1939.

FINANCIAL AID—CANCER PATIENTS: That State and Federal aid should be withheld from all cancer patients, except those classified as indigents.

AWARDS — COMMITTEE ON AWARDS: That the Hardman Loving Cup Committee, the Crawford W. Long Memorial Prize Committee and the Hookworm Prize Committee be combined in one Committee on Awards.

EXECUTIVE COMMITTEE—CANCER COMMISSION: That the Chairman of the Cancer Commission, Vice Chairman and Secretary act as an Executive Committee to advise the State Board of Health in reference to cancer control and that the former Advisory Committee to the State Department of Public Health for Cancer Control be abolished.

MILK COMMISSION: That the State Board of Health take the lead and do the work which might otherwise be accomplished by a Milk Commission.

PROPOSED AMENDMENT TO CONSTITUTION AND BY-LAWS: It is proposed to amend Chapter I, Section 5 of the By-Laws. It was stated the purpose was to clarify the section in reference to associate members.

SCIENTIFIC WORK: Commended the Committee on Scientific Work for the selection of essayists and guest speakers, recommended the establishment of a lectureship which may be a part of the annual program on problems which may arise in our relationship to lay subjects, to be discussed by prominent laymen or physicians who have made this a definite study.

PUBLIC POLICY AND LEGISLATION: Commended the Committee on Public Policy and Legislation for the results of its efforts during the regular and extra sessions of the General Assembly of Georgia. Approved the report of the Committee in reference to efforts by United States Senators, Congressmen et al to socialize medicine.

MEDICAL DEFENSE: Commended the Committee on Medical Defense for its excellent record in defending members against unfair and insidious suits for alleged malpractice and expressed pleasure in having the able legal representation the Association now enjoys.

HOSPITALS: Was pleased with the number of hospitals being built with municipal and county funds which permit and provide for the medical care of the indigent; advised close study of group hospitalization to eliminate undesirable features which may prevent the best of care for the indigent or fail to promote the scientific study of patients.

CANCER COMMISSION: The Chairman of the Cancer Commission, Dr. J. L. Campbell, was generously lauded for his untiring efforts for twenty years to promote the control and treatment of cancer; his efforts and success in securing an appropriation by the General Assembly of Georgia to establish clinics at strategic points in the State for the treatment of indigent cancer patients.

MEDICAL HISTORY: Approved the efforts of the Sub-Committee on Medical History of Georgia to secure accurate and truthful data in reference to the development of medicine in Georgia and to pay due respect to those whose resourceful minds engaged in scientific research have meant so much for the alleviation of human suffering and contributed to the medical history of the nation.

ABNER WELLBORN CALHOUN LECTURESHIP: Recommend to the thoughtful consideration of our members the eminent scientific minds the Committee has brought to our annual sessions because of the appreciation and cherished memory we have for the pioneer in the field of his specialty whose name this lectureship carries.

MATERNAL MORTALITY AND INFANT DEATHS: Suggested that all members read the report of the Committee when published, cooperate with it and follow its recommendations to reduce infant and maternal deaths.

POST-GRADUATE STUDY: Adopted the report of the Committee that improvements be made in the courses of study and that instructions be resumed as early as convenient.

SECRETARY-TREASURER: The Chairman of Reference Committee No. 1 apologized for the omission of any reference to the report of the Secretary-Treasurer, Dr. Edgar Shanks, and stated that the reason it happened his work was so perfectly done that there was no comment to make. The Committee expressed its confidence in his ability and integrity.

CRAWFORD W. LONG MEMORIAL PRIZE: Adopted the report of the Committee that no prize be awarded this year.

ADVISORY COMMITTEE ON ORTHOPEDICS—STATE DEPARTMENT OF PUBLIC WELFARE: Adopted the report of the Committee and was pleased that a creditable sum of money had been received for the treatment of crippled children.

ADVISORY COMMITTEE TO THE STATE BOARD OF HEALTH: The report of the Committee was approved in which it was shown that public health workers and physicians were working in harmony for the prevention

of disease and that strict ethical relations had been and will be maintained between the State Department of Public Health and practicing physicians.

ADVISORY COMMITTEE TO WOMAN'S AUXILIARY: Adopted the report of the Committee that the Auxiliary had done such excellent work that it become an integral part of the Association, that thanks be extended to the Auxiliary and appreciation for its cooperation and valuable assistance.

HOOKWORM PRIZE: The report of the Committee was accepted in which no award was made for lack of work in the control of the disease.

SCIENTIFIC EXHIBIT: The Committee was highly commended for its work and educational exhibit, being the largest in the history of the Association.

ADVISORY COMMITTEE ON OPHTHALMOLOGY — STATE DEPARTMENT OF PUBLIC WELFARE: Adopted the report of the Committee which showed that it had functioned satisfactorily and had received sympathetic cooperation by the Department.

SYPHILIS COMMISSION: Adopted the report of the Committee in which it was shown that much satisfactory work had been accomplished, a great deal more to be done, and that if the Committee was composed of less members its work might be more effective.

SOCIAL SECURITY ACT — ADVISORY TO STATE BOARD OF HEALTH: The report of the Committee was adopted which showed that it had advised with officials of the Department and rendered all service possible within its sphere.

FULTON COUNTY MEDICAL SOCIETY RECOMMENDATION: Adopted the recommendations by the delegates of the Society: That it was the duty of government officials and the laity to help in some plan to provide for medical care of the indigent and sub-comfort groups and that their effort should be limited to economic and financial activities; and that the medical profession should devise plans to render adequate medical care. That the Medical Association of Georgia and its constituent societies help and cooperate in the Study for Medical Care and lay groups be encouraged to help with plans for the economic and financial success of the undertaking. The Society pointed to the Medical Service Bureau and its approval of procedure for the operation of group hospitalization. It points to the activities of the American Medical Association as further evidence that the Study for Medical Care should be promoted by all local societies. The Society inquires if it will be feasible to establish a lectureship on "Public Health and Good Citizenship," and stated that a member would give \$250 annually as long as he lived to provide for such a lecture.

AMENDMENT TO CONSTITUTION AND BY-LAWS, PROPOSED: In Article VIII of the Constitution, add Section 2: "The financial support of such district society as provided for in previous sections shall be derived from a voluntary per capita contribution as the members of such district society consider necessary." Chapter III, Section 8, By-Laws, add: "The expenses incident to the operation of such district societies shall be raised as hereinbefore stated and the proposed amendment to Article VIII of the Constitution."

MEDICAL ECONOMICS: Adopted the report of the Committee which refers to the fee schedule as published

in *The Journal*, which was recommended by the Sub-Committee on Medical Economics; agreement with the United States Farm Security Administration for county medical societies to furnish medical care for its clients for such compensation as may be agreed upon; explained efforts already made in some states to promote state medicine; points to the Medical Service Bureau, Atlanta, as one means to forestall state medicine by rendering medical care to the low income group for what they are able to pay; the Association and county societies are urged to help and cooperate in the Study for Medical Care undertaken by the American Medical Association.

MEDICAL ECONOMICS—SUB-COMMITTEE: Adopted report to create a Committee on Industrial Relations which will confer with industrial boards and others on such subjects as may be of interest to the profession; also that it shall consult the Council and adhere to its recommendations.

COMMITTEE REPORTS: Motion carried to require chairmen of all committees to submit three copies of their reports to the Secretary-Treasurer at least two weeks before each annual session so that copies may be forwarded to the Reference Committees which will give them ample time to study the reports and make recommendations at the annual session.

HARDMAN LOVING CUP: The Committee reported that the award had been made to Dr. Virgil Preston Sydenstricker, Augusta, for his research "On the Existence of an Intrinsic Deficiency in Pellagra."

"THE BIRTH OF A BABY." COMMITTEE TO VIEW AND CENSOR PICTURE: The unanimous report of the Committee was that the interest of maternal and child welfare would be advanced by the release of the production. Motion carried to refer the report to the delegates of this Association with instructions to submit to the House of Delegates of the American Medical Association at its San Francisco session.

THE L. C. FISCHER AWARDS—OFFER: Dr. L. C. Fischer, Atlanta, made an offer of two awards which was referred to a committee composed of Dr. W. A. Selman, Dr. C. W. Roberts, Dr. H. C. Sauls and Dr. Edgar D. Shanks, Secretary-Treasurer, with instructions to confer with Dr. Fischer and report to the Association.

BUDGET: Adopted the recommendation of the Council to make the budget for the fiscal year 1938-39 the same as for 1937-38, except, that on account of the distance to San Francisco, \$300 will be allowed for each delegate from this Association, also equal amount for the Secretary-Treasurer to attend the San Francisco session of the American Medical Association as an official representative; the honorarium for the President will be \$300. Dues for 1939 will be \$7.00.

THE GEORGIA MEDICAL SOCIETY. Savannah, met on May 24. The scientific program consisted of paper, *The Heart Action as an Indicator of Thyroid Irregularities—Illustrated with Lantern Slides*, Dr. Edward Jelks, Jacksonville, Florida; the discussion was led by Dr. R. L. Oliver and Dr. J. K. Quattlebaum.

NEWS ITEMS

THE MACON MEDICAL SOCIETY of Bibb County met at Ridley Hall on May 17. Dr. C. K. McLaughlin read a paper on *Squint*.

DR. JAMES E. PAULLIN, Atlanta, presented diplomas to the graduating class of the Piedmont Hospital School of Nursing on May 27 at the Atlanta Woman's Club; Dr. Herschel C. Crawford presented hospital pins; Dr. Floyd W. McRae presided.

DR. H. W. CLEMENTS, DR. L. R. HUTCHINSON, DR. J. B. OLIPHANT and DR. W. M. SHEPARD, all of Adel, entertained members of the South Georgia Medical Society to dinner at the Lions Hall on May 10. The society is composed of Berrien, Clinch, Cook, Echols, Lanier and Lowndes counties. Dr. W. W. Turner, Nashville, spoke on *State Medicine*.

DR. L. C. FISCHER and DR. ED F. FINCHER, JR., both of Atlanta, spoke before a meeting of the Baldwin County Medical Society at the Milledgeville State Hospital on May 10.

DR. THOS. R. AYCOCK entertained members of the Walton County Medical Society to dinner at Lott's Lodge on May 3. Members present were: Dr. Chas. S. Floyd, Loganville; Dr. John Gerdine, Jersey; Dr. John L. Dorough, Dr. W. H. Lott, and Dr. E. S. Deaver, all of Monroe. Others present included a number of nurses, friends and relatives of the physicians.

THE NAME OF DR. V. P. SYDENSTRICKER, Augusta, is the fifth name to be engraved on the Hardman Loving Cup. Copy of the inscription follows:

Virgil Preston Sydenstricker, M.D.

Augusta, Georgia

*On the Existence of an Intrinsic
Deficiency in Pellagra*

Other names engraved on the Hardman Loving Cup prior to that of Dr. Sydenstricker are: Dr. Roy R. Kracke, Emory University; Dr. J. A. Redfearn, Albany; Dr. Glenville Giddings, Atlanta; and Dr. J. L. Campbell, Atlanta.

DR. RALPH N. JOHNSON has been elected City Health Officer of Rome. He is the efficient secretary-treasurer of the Floyd County Medical Society.

DR. JOHN H. VENABLE, Emory University, has been awarded a fellowship by the Commonwealth Fund of New York City. He will spend the next academic year at Harvard University Medical School, Boston, Mass.

THE STAFF MEETING of the Georgia Baptist Hospital, Atlanta, was held on May 17. Reports of cases were made by Dr. T. C. Davison and Dr. Fred F. Rudder; Dr. Geo. F. Eubanks and Dr. W. Frank Wells.

DR. CRAWFORD F. BARNETT announces the removal of his offices to 415 Doctors Building, 478 Peachtree Street, N. E., Atlanta.

THE STAFF MEETING of St. Joseph's Infirmary, Atlanta, was held on May 24. The program consisted of a symposium on *Peptic Ulcer: Clinical Diagnosis* by Dr. J. C. Masee; *X-Ray Diagnosis*, Dr. A. A. Rayle; *Pathologic Diagnosis*, Dr. John Funke; *Medical Treatment*, Dr. Mark S. Daugherty; *Surgical Treatment*, Dr. J. W. Turner.

**MEMBERS OF THE MEDICAL ASSOCIATION OF GEORGIA REGISTERED
AT THE EIGHTY-NINTH ANNUAL SESSION
Augusta, April 26, 27, 28, 29, 1938**

A

Abercrombie, T. F., Atlanta
Abram, Lewis E., Fitzgerald
Adams, Thos. M., Montezuma
Aiken, W. W., Lyons
Akerman, Joseph, Augusta
Alden, Herbert, Atlanta
Alexander, Geo. H., Forsyth
Allen, H. D., Jr., Milledgeville
Allen, Myrom B., Hoschton
Allison, Gordon G., Atlanta
Allison, James, Atlanta
Alsup, W. B., Jr., Augusta
Amis, F. J., Hogansville
Anderson, Carl L., Macon
Anderson, G. M., Morgan
Anderson, H. A., Portal
Anderson, Jno. M., Augusta
Anderson, Robert T., Augusta
Anderson, W. W., Atlanta
Andrews, Chas. R., Jr., Canton
Ansley, H. G., Decatur
Armstrong, W. B., Atlanta
Arnold, J. T., Parrott
Arrendale, Joe., Augusta
Askew, H. H., Atlanta
Askew, P. H., Jr., Nashville
Askew, Rufus, Atlanta
Asteen, W. L., Augusta
Atkinson, Harold C., Macon
Aven, C. C., Atlanta
Avera, Bert, Jr., Augusta
Ayers, C. L., Toccoa

B

Baer, Max E., Savannah
Baker, E. L., Columbus
Ballenger, E. G., Atlanta
Bailey, D. V., Elberton
Bailey, M. K., Atlanta
Bailey, Thos. E., Augusta
Baird, J. Mason, Atlanta
Bancker, E. A., Jr., Atlanta
Banister, H. G., Ila
Barfield, F. M., Atlanta
Barfield, Hugh H., Atlanta
Barnett, Crawford, Atlanta
Barnett, S. T., Jr., Atlanta
Barrett, Clara B., Atlanta
Barrow, Craig, Savannah
Bateman, Needham B., Atlanta
Battey, W. W., Augusta
Bazemore, Wallace, Macon
Beard, B. C., Smyrna
Beasley, B. T., Atlanta
Bedingfield, W. O., Savannah
Bell, Rudolph, Thomasville
Bennett, Jno. L., Trion
Bennett, V. H., Gay
Bennett, W. H., Sylvania
Bent, H. F., Midville

Bernard, G. T., Augusta
Bickerstaff, H. J., Atlanta
Billinghurst, Geo. A., Rome
Bishop, Everett L., Atlanta
Bivings, Lee, Atlanta
Bivings, W. Troy, Jr., Atlanta
Blackford, L. Minor, Atlanta
Blalock, J. C., Atlanta
Boland, Frank K., Augusta
Boland, Joe H., Atlanta
Boland, Kells, Atlanta
Boland, S. A., Loganville
Bond, John, Augusta
Bowcock, Harold, Atlanta
Bowdoin, C. D., Atlanta
Bowdoin, W. H., Statham
Bowen, J. B., Augusta
Boyette, L. S., Ellaville
Boynton, Chas. E., Atlanta
Bradford, R. W., Milledgeville
Brannen, C. C., Moultrie
Bray, H. B., Wrightsville
Brawner, Jas. N., Atlanta
Bridges, G. J., Millen
Brim, J. C., Pelham
Brittingham, Jno. W., Augusta
Broderick, Reid, Savannah
Brooks, H. C., Jr., Augusta
Brown, Chas. T., Jr., Guyton
Brown, R. G., Graymont
Brown, Stewart D., Royston
Brown, S. Ross, Atlanta
Brown, Stephen T., Atlanta
Brown, Thos. P., Augusta
Bryans, C. I., Augusta
Bryant, C. H., Comer
Bryant, V. L., Bartow
Bryson, R. I., Augusta
Bunce, Allen H., Atlanta
Burdashaw, Jas. F., Augusta
Burdashaw, W. J., Augusta
Burke, B. Russell, Atlanta
Burpee, C. M., Augusta
Busey, T. J., Fayetteville
Bush, A. R., Hawkinsville
Butler, C. G., Gainesville
Butler, J. H., Augusta
Byne, J. M., Waynesboro
Byne, J. M., Jr., Waynesboro
Byrd, T. Luther, Atlanta

C

Cabaniss, W. H., Athens
Callaway, Enoch, LaGrange
Camp, R. T., Fairburn
Campbell, Jas. L., Atlanta
Campbell, Jas. L., Jr., Augusta
Cardwell, E. S., Jr., Augusta
Carr, David T., Atlanta
Carter, J. G., Scott
Carter, R. L., Thomaston

Cary, H. R., Milledgeville
Cason, W. M., Sandersville
Cathcart, Don F., Atlanta
Chaney, Ralph H., Augusta
Chason, Thos., Donalsonville
Chastain, J. R., Gainesville
Cheek, O. H., Dublin
Cheves, H. L., Union Point
Cheves, L. C., Jr., Augusta
Childs, J. R., Atlanta
Chrisman, W. W., Macon
Churchill, C. W., Thomson
Clark, Jas. J., Atlanta
Clark, T. H., Douglas
Clark, W. H., LaGrange
Claxton, E. B., Dublin
Clay, Grady, Atlanta
Cleckley, Hervey, Augusta
Cleveland, Robert H., Augusta
Cline, B. McH., Atlanta
Clower, J. W., Augusta
Cobb, Ty., Jr., Augusta
Cochran, E. D., Augusta
Cochran, W. N., Augusta
Coker, Grady N., Canton
Coleman, Fred, Augusta
Coleman, Warren A., Eastman
Collier, Thos. J., Atlanta
Collier, T. W., Lyons
Collins, B. E., Waycross
Collingsworth, A. M., Atlanta
Coppedge, W. W., Augusta
Colquitt, A. O., Jr., Augusta
Corbett, W. M., Jr., Augusta
Corn, Ernest, Macon
Corry, J. A., Baresville
Cox, C. G., Milledgeville
Cranston, W. J., Augusta
Crawford, H. C., Atlanta
Crichton, Robert B., Augusta
Curtis, W. L., College Park

D

Dancy, Wm. R., Savannah
Daniel, Chas. H., College Park
Darden, Horace, Sparta
Davidson, A. A., Augusta
Davis, Abe J., Waynesboro
Davis, A. W., Warrenton
Davis, J. E., Atlanta
Dawson, Harry, Augusta
Davison, T. C., Atlanta
Deal, B. A., Statesboro
Demmond, E. C., Savannah
Denton, Jno. F., Atlanta
DeVaughn, N. M., Augusta
Dew, J. Harris, Atlanta
Dickens, H. B., Jr., Augusta
Dillard, J. B., Davisboro
Dimmock, A. M., Atlanta
Dismuke, H. L., Ocilla

Dobson, Wm. M., Augusta
 Dougherty, Mark S., Jr., Atlanta
 Dow, Philip, Augusta
 Duggan, A. D., Augusta
 Durham, Bon, Augusta

E

Egleston, DuBose, Augusta
 Elliott, W. G., Cuthbert
 Emery, W. B., Atlanta
 Estes, J. M., Augusta

F

Fancher, J. K., Atlanta
 Farmer, C. Hall, Macon
 Ferguson, I. A., Atlanta
 Ferrell, A. G., Jr., Dublin
 Ferrell, T. J., Waycross
 Fischer, L. C., Atlanta
 Fleming, C. A., Tifton
 Fletcher, Elizabeth, Statesboro
 Florence, Loree, Athens
 Floyd, Earl, Atlanta
 Floyd, Waldo E., Statesboro
 Folk, J. J., Millen
 Fort, A. G., Atlanta
 Fort, M. A., Bainbridge
 Fountain, Jas. A., Macon
 Fowler, Major F., Atlanta
 Franklin, R. C., Swainsboro
 Frech, Henry C., Jr., Augusta
 Freeman, Norman, Jr., Augusta
 Fulghum, Chas. B., Milledgeville
 Fulghum, Thos. E., Augusta
 Fuller, Geo. W., Atlanta
 Funderburke, A. G., Moultrie
 Funkhouser, W. L., Atlanta

G

Garner, J. E., Thomaston
 Garner, Jno. P., Atlanta
 Garner, J. R., Atlanta
 Garver, C. C., Atlanta
 Gary, Loren Jr., Shellman
 Gay, J. R., Homerville
 Gerdine, Linton, Athens
 Ghesling, Goodwin, Greensboro
 Gholston, W. D., Danielsville
 Gilbert, Ben, Augusta
 Goodrich, W. H., Augusta
 Gibson, Roy L., Columbus
 Glenn, Wadley R., Atlanta
 Goodwin, Thos. W., Augusta
 Goodwyn, Thos. P., Atlanta
 Gray, J. D., Augusta
 Green, A. J., Union City
 Greenblatt, R. B., Augusta
 Greene, Ed H., Atlanta
 Greene, J. V., Augusta
 Greer, Chas. A., Oglethorpe
 Griffin, Claude, Atlanta
 Gross, O. S., Vidalia
 Grove, Lon, Atlanta

H

Hailey, Howard, Atlanta
 Hailey, Hugh, Atlanta

Halford, Richard F., Atlanta
 Hall, Jno. I., Macon
 Hall, Thos. H., Macon
 Hallum, Alton V., Atlanta
 Hammond, D. W., LaFayette
 Harbin, H. W., Augusta
 Harbin, Lester, Rome
 Harbin, R. M., Jr., Rome
 Hardman, C. T., Tallulah Falls
 Harper, G. T., Dewy Rose
 Harper, Harry T., Jr., Augusta
 Harrell, H. P., Augusta
 Harris, E. R., Winder
 Harris, Raymond, Ocilla
 Harrison, M. T., Atlanta
 Harrold, Thos., Macon
 Harvard, V. O., Arabi
 Hatcher, Katherine, Augusta
 Hatcher, Milford B., Augusta
 Head, M. M., Zebulon
 Helton, B. L., Sandersville
 Henderson, C. A., Ashburn
 Hendry, G. T., Blackshear
 Hendry, W. A., Blackshear
 Henry, C. G., Augusta
 Hensley, Ernest A., Gibson
 Hicks, Chas. L., Dublin
 Hill, Roy, Thomasville
 Hillis, W. W., Sardis
 Hilsman, A. H., Albany
 Hodgson, F. G., Atlanta
 Holder, Frank P., Jr., Eastman
 Holliday, Henry C., Athens
 Holmes, L. P., Augusta
 Holton, C. F., Savannah
 Horton, B. E., Atlanta
 Howard, Lee, Savannah
 Howell, Stacy C., Atlanta
 Huie, Lynn M., Augusta
 Hunnicutt, John, Athens
 Hunt, K. S., Griffin
 Huson, W. J., Covington

J

Jenkins, H. B., Donalsonville
 Jennings, Wm., Augusta
 Johnson, Trimble, Atlanta
 Johnston, Z. V., Calhoun
 Joiner, Hartwell, Gainesville
 Jones, B. B., Metter
 Jones, Jno. P., Augusta
 Jones, R. E., Tifton
 Jordan, Dan A., Douglas
 Jordan, W. P., Columbus

K

Kay, Jas. B., Byron
 Keen, O. F., Macon
 Kelley, Albert J., Savannah
 Kelley, L. H., Atlanta
 Kelley, Alex, Jr., Augusta
 Kelly, G. Lombard, Augusta
 Ketchin, S. C., Louisville
 Kilpatrick, A. J., Augusta
 Kilpatrick, C., Augusta

King, J. L., Macon
 Kirkland, Spencer A., Atlanta
 Klugh, Geo. F., Atlanta
 Klugh, Geo. F., Jr., Atlanta
 Kracke, Roy R., Emory University
 Kusnitz, M., Jr., Alamo

L

Lamb, E. H., Cornelia
 Lancaster, E. M., Shady Dale
 Lancaster, H. H., Clermont
 Landham, J. W., Atlanta
 Lange, J. Harry, Atlanta
 Lanier, J. E., Moultrie
 Laws, Clarence, Atlanta
 Leaphart, E. L., Augusta
 Lee, F. Lansing, Augusta
 Lee, H. G., Millen
 Lennard, O. D., Sandersville
 Leslie, J. T., Augusta
 Lester, B. E., Augusta
 Levy, Jack H., Augusta
 Levy, T., Augusta
 Lewis, Jno. R., Louisville
 Lewis, S. J., Augusta
 Little, A. D., Thomasville
 Little, Frank, Augusta
 Little, R. N., Summerville
 Lord, C. B., Jefferson
 Lott, O. H., Savannah
 Lowe, W. R., Midville
 Lunsford, Guy G., Atlanta

M

Maddox, R. C., Rome
 Mann, F. R., McRae
 Martin, J. D., Jr., Atlanta
 Martin, Robert B., III, Augusta
 Martin, Walter D., Augusta
 Mathews, Marion, Augusta
 Matthews, W. E., Augusta
 Maulding, Homer R., Atlanta
 May, E. R., Lincolnton
 Mays, J. R. S., Milledgeville
 McAllister, R. W., Macon
 McCarver, W. C., Vidalia
 McCollum, R. Roy, Augusta
 McCullough, Kenneth, Waycross
 McCurdy, J. W., Thomaston
 McCurdy, Willis T., Stone Mountain
 McDaniel, J. G., Atlanta
 McDaniel, J. Z., Augusta
 McDonald, Harold, Atlanta
 McElveen, J. M., Brooklet
 McElroy, J. D., Augusta
 McGahee, R. C., Augusta
 McGeary, W. C., Madison
 McGinty, A. Park, Atlanta
 McGinty, H. C., Statesboro
 McMillan, Katherine V., Atlanta
 McRae, D. R., Jr., Augusta
 Meaders, H. D., Augusta
 Mealing, H. G., Augusta
 Meeks, J. L., Gainesville

Mercer, J. E., Vidalia
 Mestre, Ricardo, Atlanta
 Mettler, F. A., Augusta
 Metts, J. C., Savannah
 Michel, H. M., Augusta
 Miller, Clifford, Portal
 Miller, J. M., Augusta
 Minchew, B. H., Waycross
 Mitchell, Frank, Jr., Augusta
 Mitchell, Marvin A., Atlanta
 Mitchell, W. C., Smyrna
 Mitchell, W. S., Atlanta
 Monfort, J. M., Atlanta
 Mooney, A. J., Statesboro
 Mooney, John, Jr., Statesboro
 Moore, Herman, Augusta
 Morrison, H. J., Savannah
 Morton, John B., Augusta
 Mountain, Geo. W., Augusta
 Mulherin, Albert, Augusta
 Mulherin, Philip A., Augusta
 Mulherin, Wm. A., Augusta
 Mulkey, A. P., Millen
 Mulkey, Q. A., Millen
 Murphey, Eugene E., Augusta
 Muse, L. H., Atlanta
 Myers, Martin, Atlanta
 Myers, Wm. H., Savannah

N

Nash, Thos. C., Philomath
 Nathan, Daniel E., Augusta
 Nevil, J. L., Metter
 New, J. E., Dexter
 New, J. S., Augusta
 Newman, W. A., Macon
 Nippert, Philip H., Atlanta
 Norris, Jack C., Atlanta
 Norvell, J. T., Augusta
 Neville, R. L., Savannah

O

Oliphant, J. B., Adel
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 Wright, Geo. W., Augusta
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 Workman, C. H., McCormick, S. C.
 Wyman, Hugh E., Columbia, S. C.

OBITUARY

Dr. Uldrick McLaws Kieffer, Atlanta; Jefferson Medical College, Philadelphia, Pa., 1914; aged 48; died in a private hospital after a long illness on May 24, 1938. He was a native of Savannah. Dr. Kieffer served as captain in the medical corps of the United States Army in France during the World War, from the beginning of the war in 1916 through the entire conflict until after the Armistice was signed, then for a number of years was engaged in professional work with the United States Public Health Service; then with the Veterans' Bureau, Augusta, and later transferred to Atlanta. After discontinuing his work with the government, he opened offices in Atlanta and began private practice of medicine and continued until his health failed a few years ago when he was forced to

retire. Dr. John M. Moore officiated at funeral services conducted at Spring Hill Chapel. Burial was in West View cemetery.

Dr. J. C. Trentham, Cedartown; Southern Medical College, Atlanta, 1881; aged 80; died at his home on May 3, 1938. He was born and reared in the Lime Branch section near Cedartown. Dr. Trentham practiced medicine in Cedartown for a number of years until he retired then made his home in Atlanta for a number of years and was a member of the Men's Bible Class and the Inman Park Baptist church. Later he returned to Cedartown. Surviving him are three daughters, Mrs. J. M. Allen, Atlanta; Mrs. J. W. Moore, Carrollton, and Mrs. T. L. Harris, Cedartown; three sons, Dr. J. C. Trentham, Jr., and J. W. Trentham, both of Celeste, Texas, and Frank Trentham, Electra, Texas. Dr. S. F. Lowe officiated at the services conducted at the Lime Branch Baptist church. Burial was in the churchyard.

DOCTOR GEORGE WASHINGTON SHERRER

Again the Grim Reaper has called, removing from our ranks the oldest physician in Wilkes County.

Dr. George Washington Sherrer, aged 90 years and 2 months, was born in Wilkes County, Georgia, December 27, 1847 and died, following a brief illness, in the Washington General Hospital, Washington, Georgia, on February 26, 1938.

He received his early education at Jefferson, Georgia.

In the War Between the States, as a member of Co. C, 1st Georgia Militia, he was a fearless soldier.

Dr. Sherrer graduated from the University of Georgia School of Medicine at Augusta, Georgia, March 21, 1876 and practiced medicine at Rayle, Wilkes County, Georgia, near the home of his birth, for nearly 62 years, prescribing for his last patient on the same day he was taken ill.

Dr. Sherrer was a gentleman of the old school. He had a happy disposition, was kind, considerate and ready at all times to minister to those who needed his services. A friend to man, he numbered his friends among those with whom he came in contact. He was a kind husband and father, a trustworthy citizen, and a member of Sardis Baptist church. For many years he was a member of the Wilkes County Medical Society and an honorary member of the State Medical Association.

Whereas, in obedience to a Higher Power, after a long and useful life, our friend and brother physician has laid down his burdens.

Therefore, be it Resolved by the Wilkes County Medical Society:

1. That in the passing of Dr. Sherrer, Wilkes County has lost one of her best citizens, the medical profession a good doctor, and the Wilkes County Medical Society a faithful member.

2. That these Resolutions be inscribed on a page in the minute book of the Medical Society, published in *The Journal* of the Medical Association of Georgia and the local newspaper.

3. That a copy of these resolutions be forwarded to his family.

A. W. SIMPSON, M.D.

C. E. WILLS, M.D.

Committee.

DR. ROBERT JOHN McNEILL

Earth was indeed made poorer and heaven richer by the passing of Dr. R. J. McNeill on August 17, 1937.

Dr. McNeill was born in Abbeville, S. C., on December 3, 1874. He attended the medical school at Sewanee for two years and finished at Augusta in 1902. He worked for two years at the City Hospital, having a small practice in the city under Dr. Morgan. He came to Wilkes County in April, 1904. Since that time he has given his time, his untiring efforts, and services in all places and at all times possible. It may be said of Dr. McNeill that he was most faithful in the performance of each duty as he saw it. He was kind, courteous, sympathetic to those who sought his aid.

Whereas, Providence has seen fit to remove from us this brother physician and friend who has been active in the Wilkes County Medical Association for over

thirty years, we desire to honor his memory by the following resolutions:

1. That we do most sincerely regret and mourn the loss of our friend and brother, but we bow in humble submission to His will, knowing that He doeth all things well.

2. That our Medical Association has lost one of its most faithful members, who was always ready to aid in any call of our profession.

3. That we hold in reverence and honor his memory and strive to emulate his virtues.

4. That a copy of these resolutions be spread upon the minutes of our Medical Society, that a copy be sent to his family, and that same be published in the *Journal* of the Medical Association of Georgia and the *Washington News-Reporter*.

5. That we extend to the family our most heartfelt sympathy, and that this resolution be a token of our love and esteem for our friend.

WILKES COUNTY MEDICAL SOCIETY,

L. R. CASTEEL, M.D.

C. E. WILLS, M.D.

BOOK REVIEW

Handbook of Orthopedic Surgery, by A. R. Shands, Jr. C. V. Mosby Company, St. Louis. Price \$5.00. This book covers practically every disease or condition that the orthopedic surgeon will ever see with the exception of fractures, plaster and apparatus. It is written briefly and concisely. This would be an excellent textbook for the student, a reference book for the general practitioner and a thorough review for the orthopedic surgeon.

A very complete bibliography is appended and further information on any subject may be readily found. From the standpoint of the orthopedic surgeon this is a most valuable feature.

There are twenty-four chapters with the subject matter grouped in most cases under the pathologic and anatomic heads.

The illustrations are mainly pen and ink sketches and are used freely. The absence of photographs, roentgenogram and plates probably explain the reasonable price of the book.

H. WALKER JERNIGAN, M.D.

"LIBERTY" AND MEDICINE

For some weeks *Liberty*, published by Macfadden Publications, has been printing what purports to be and exposé of medical practice by one Dr. "George B. Raymond." The story is called "Doctors Don't Tell." An editorial note intimates that this is a true story and that its purpose is to expose evils that are hidden by medical ethics. From all over the country have come protests from both nonmedical readers and physicians against the obvious lack of dependability in this material. If the statements are honest and susceptible of verification, the author should not hesitate to attach his name. Evidence now available indicates, however, that the prefix "Dr." before the author's name should also have been in quotation marks. A telegram was sent to Macfadden Publications asking the editor to confirm the fact that the articles had been prepared by

an individual who had failed to receive a medical degree and who had admitted deceit in the securing of a license. Apparently Macfadden Publications does not wish to answer this question. These statements indicate how little creditability can be given to or dependability placed on this alleged exposé of medical ethics in *Liberty*.—*Jour. A. M. A.*, April 16, 1938.

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INTERPRETATION OF EXCESSIVE GONADOTROPIC HORMONES EXCRETED IN URINE IN EARLY PREGNANCY

A. J. KOBAK, Chicago (*Journal A. M. A.*, April 9, 1938), cites a case that demonstrates the difficulty in diagnosis when, after the expulsion of a hydatid mole, an unexpected pregnancy intervenes. The diagnosis was obscured by the contraceptive precaution. Furthermore, the possibility of a pregnancy occurring within four weeks from the date of the curettage was unlikely. With the uterus growing rapidly for one week, the hemorrhage and the hormone observations, the diagnosis of uterine pregnancy became even more dubious. The patient was admitted to the Michael Reese Hospital, where the uterus was emptied by an abdominal hysterotomy. It contained a normal fetus and placenta about 10 weeks of age. The left ovary contained a normal corpus luteum of pregnancy. The fibroids were removed and the patient made an uneventful recovery. Microscopic examination of the placenta showed nothing abnormal. Two subsequent Friedman tests were negative. When more negative reports are made, the diagnostic value of large quantities of gonadotropic hormones in the urine will be more limited. The clinical history and physical appearances should be given primary consideration before one concludes that chorionepithelioma or hydatidiform mole is present.



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Number 7

RELIEF OF CAUSALGIC-LIKE PAIN IN THE ISOLATED EXTREMITY BY SYMPATHECTOMY*

Case Report

R. FRANK SLAUGHTER, M.D.

Augusta

From a review of the literature it would seem that further information of a clinical nature in regard to pain pathways of the sympathetic nervous system is desired. It is the purpose of this report to add an observation to those which have gone before, the present case dealing with the relief of pain in the lower extremities of a patient whose legs had been deprived of their somatic nerve supply by a complete anatomic transection of the cord at the first lumbar vertebra as the result of an automobile accident.

The nature of causalgia is still quite indefinite in spite of the voluminous literature that has sprung up since Weir Mitchell's classic description. We know that it usually follows trauma, especially in people who have an unstable personality with a low threshold to pain. It occurs more frequently in the presence of partially severed nerves than after complete severance of the somatic supply. It is associated with a thin, shiny skin which is discolored and drawn tight over the bony structures.

Since the work of Leriche¹ on the relief of causalgia by periarterial sympathectomy, much work has been done on the relief of many varieties of pain by that method. Leriche definitely proved that pain may be produced in an extremity by vasoconstriction which is of sympathetic origin, and that interruption of the reflex spasm by sympathectomy will give relief. Since then Royle² pro-

duced the same effect by resection of the lumbar sympathetic ganglia. Spurling³ reported a case of causalgia which he said was due to ischemia of the extremity and which he relieved by thoraco-dorsal sympathectomy. Numerous authors have reported favorable results from Raynaud's disease and thromboangiitis obliterans by sympathetic ganglionectomy. Their results have been reported as due to increase in blood supply by removing vasospasm of sympathetic origin. The mechanism of the process is explained by Harris⁴ upon the basis of the elaboration of an adrenalin-like substance called sympathin by Cannon, when the efferent sympathetic fiber is stimulated. This substance produces vasoconstriction. This vasoconstriction stimulates somatic sensory fibers and the sensation of pain is transmitted to the cerebrum in the usual manner. Fibers in the cranial and lower sacral nerves produce a dilator effect through the production of a substance resembling acetylcholine.

Sheehan⁵ states that to abolish pain in any given region, ganglionectomy or a complete ramisection must be done to allow for short communicating sensory fibers included with the proper efferent sympathetic fibers.

It has been found that complete vasomotor paralysis of the lower extremity is obtained by resection or blocking of the second, third and fourth lumbar sympathetic ganglia and trunk. In experimental animals the circulation returns to normal in ten days to two weeks.⁶ This return is conceivable in the human at a much later date, however.

Bishop and Heinbecker,⁷ Heinbecker,⁸ and Heinbecker, Bishop and O'Leary⁹ proved that besides somatic fibers, peripheral nerves contain sympathetic motor, that is, vasomotor, sudomotor and pilomotor, and afferent sympathetic fibers conveying pain impulses. This finding of both afferent and sympathetic efferent fibers in peripheral nerves explains some

*Read before the Medical Association of Georgia, Augusta, April 27, 1938.

of the confusing sympathetic phenomena seen in injuries of the peripheral nerve. Ransom¹⁰ in 1915 discovered that there is a distinct separation of the large myelinated fibers from the fine myelinated and unmyelinated fibers in the peripheral nerve. The fine myelinated and unmyelinated fibers enter the tract of Lissauer and terminate almost immediately in the gray matter which suggests that they carry both pain and temperature sensation. These fibers then ascend to the thalamus in the spinothalamic tracts of the opposite side. Davis, Hart, and Crain¹¹ found that a superficial anterolateral section of the cord would not abolish pain of sympathetic origin but that a deeper section involving the gray matter would abolish all forms of sensation.

Foester, Altenburger and Kroll¹² proved that by stimulating an area in man in which somatic afferent sensibility had been abolished, pain was produced. They believed this was due to stimulation of peripheral sympathetics. This was relayed back along the blood vessels to the sympathetic chain and from there to the spinal cord either directly or by short relays up the sympathetic chain and into the cord at a higher level. They concluded that the sympathetic plays a sensory role in every part of the body, and that to de-afferent a region completely, the sympathetic supply must be taken away, as well as the peripheral nerve supply.

Dragonesco and Kreindler¹³ brought out the fact that the vegetative system not only receives and conducts impulses from the skin, but that it also modifies the excitability of the extrasympathetic nerves. Helson and Frazier¹⁴ discovered that after a period of years, following trigeminal section, sensitivity to deep pressure increases one-hundred fold and they believe the sympathetic fibers play an afferent part in sensory conduction from the face.

Davis and Pollock¹⁵ are of the opinion that complete de-afferentation of an extremity in man destroys all forms of sensibility and that complete denervation by severing the peripheral nerves of an extremity in a decerebrate cat completely abolishes all reflexes ordinarily observed as resulting from painful stimuli. They also state that complete severance of all the peripheral nerves abolishes all evidence of

pain from stimulation of skin, subcutaneous tissue, vessels, bone and periosteum.

Kuntz⁶ states that the data available at present, does not prove the existence of any autonomic neurones which are incorporated in conduction pathways through which afferent impulses are conveyed into the central nervous system, but there are afferent fibers traveling with the sympathetics.

Pain of angina pectoris has been relieved by White and White¹⁶ by paravertebral alcohol injection and by subarachnoid alcohol injection by the author¹⁷ and many others by sympathetic ganglionectomy and root resection. Gaza¹⁸ relieved abdominal pain by section of the splanchnic nerves. Likewise many authors report relief of pain of pelvic carcinoma and of the bladder by pre-sacral sympathectomy. Also pain of vascular disease of the extremity, and of causalgia¹⁹ following an injury to the brachial plexus may be relieved by sympathectomy but there seems to be no agreement as to how pain is produced and conveyed.

In this review it is apparent that many workers believe that it is possible for afferent sympathetic fibers to convey impulses through the peripheral nerves to the sympathetic chain by way of the rami communicantes. Also such painful impulses may travel through sympathetic nerves along blood vessels or sympathetic nerves such as the splanchnic to the sympathetic chain. From there impulses may pass up and down the chain by short connecting fibers and enter the cord at various levels over the white rami and the posterior root to end in the gray matter. From there fibers may ascend in the spinothalamic tract of the opposite side to the thalamus. Also from the point of cord entrance antidromal sympathetic impulses may stimulate the vasoconstrictors of the skin in the region supplied by this peripheral nerve through the liberation of an adrenalin-like substance which will stimulate somatic sensory fibers and pain in this region will be registered in the cerebrum which is known as referred pain.

Thus it seems possible that sympathetic pain may be relieved by removing the sympathetic chain from the region supplying the area of pain. Similar relief may be obtained by sectioning the posterior roots of the spinal nerves, provided enough of the posterior roots

are sectioned to allow for the ascending and descending short communicating fibers of the sympathetic chain. The pain can also be relieved by chordotomy at a higher level, the incision being deep enough to involve the gray matter.

The importance of this report is due to the fact that the somatic sensory supply to the lower extremities of this patient was removed by a complete anatomic transection of the spinal cord at the first lumbar segment and he complained of causalgia which was relieved by lumbar sympathetic ganglionectomy of the first, second, third and fourth lumbar ganglia.

Case Report

Ronald S., a white male of thirty-one years, was injured in an automobile accident in October 1935 at which time he lost the use of his legs from the hips down. He retained some sensation in his legs until the third day following the accident at which time he was unable to perceive any form of sensation from Poupert's ligament down. He lost all the functions of his bladder and rectum. He was placed in a cast and sent home. He was readmitted to a University hospital where a laminectomy revealed a complete transection of the cord at lumbar one. Since that time he suffered severe burning, prickling pain in his legs for which he took much morphine. He was admitted to the hospital in May 1936 where an examination revealed a very thin, nervous, asthenic type of man apparently in severe pain originating from his legs. His physical examination revealed a complete paralysis of both legs with atrophy and a sensory level for all sensations to Poupert's ligament. The extremities were cold, cyanotic, slightly edematous, with the skin drawn tightly and the appearance of being very thin. The feet were very cold and blue. It was decided that his pain was of sympathetic origin and that bilateral lumbar and presacral sympathectomy was indicated. This was done on May 6, 1936. He had an uneventful recovery except for a slight sero-purulent discharge from the lower angle of the incision which cleared in four days. The extremities were found to be warmer and there was less cyanosis. The pain was completely relieved and his mental state much improved. His temperature on admission was 97 degrees Fahrenheit and did not go over 100 the entire stay in the hospital. He was discharged on May 22. Since then he has been completely relieved of pain in this region.

Discussion

In this case it was possible for the impulses of pain to travel to the cord by way of the peripheral nerves to the gray rami and thence to the sympathetic chain and by means of short relays to travel up the sympathetic chain to enter the cord above the transection and conveyed to the cerebrum. It is, how-

ever, more probable that sympathetic afferent impulses traveled along the blood vessel to the sympathetic chain and thence to the cord as previously stated. It is nevertheless remarkable that pain was felt in the legs. Concomitant with the observed pain relief was the fact that the vascular supply to the extremity was definitely improved.

This case of pain relief does not follow Harris's thought because the pain could not be referred back over the somatic nerves as they were cut off from the cerebrum by the transected cord. Ramisection of the second, third and fourth lumbar segment would not have accomplished this result because of the transected cord. This appears to support Heinbecker's belief of afferent fibers traveling in conjunction with the regular sympathetic efferent fibers. Such a view was expressed also by Kuntz, Altenburger and Kroll. There is good evidence to think that there were both afferent and efferent impulses coming from and going to the blood vessels of the extremities. These observations do not coincide with the belief of Pollock and Davis that to remove the peripheral nerves to an extremity will relieve all forms of sensation to the extremity, including sympathetic pain.

It is hoped that these observations will provide further thought for study of the pathways of pain within the sympathetic system.

Summary

1. A review of the literature has been presented on pain conduction within the sympathetic system.

2. A case was reported having causalgia in the extremities following a complete anatomic transection of the cord at lumbar one. This pain was relieved by lumbar and presacral sympathectomy.

3. An attempt was made to correlate this case with the literature.

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DISCUSSION ON PAPER OF DR. R. FRANK SLAUGHTER

Jno. F. Denton (Atlanta): It may seem unsuitable for a gynecologist to be assigned to lead the discussion on a paper by a neurologic surgeon, but the subject of pain, its sources and relief, is of extreme interest to every doctor regardless of his specialty. I shall not attempt a discussion from the neurologist's point of view, but should like to mention some efforts made by us to relieve pain originating in the pelvic organs. Facts learned by the neurologist have taught us to make the attack on the nerve supply where none could be made on the lesion itself.

It has been known for a long time that the chief nerve supply of the abdominal viscera is from the sympathetic system; that these viscera, when not diseased, are practically insensitive, but when they become pathologic they become painful, yet it has been only in comparatively recent years that our attention has been drawn to this system for the relief of pain.

To mention one very common condition, that of essential dysmenorrhea, the cause of which is not clearly known: The uterus has a very scanty nerve supply from the sacral nerves of the central nervous system, so many of these cases can be relieved by directing the treatment toward the sympathetic system. In very severe cases complete relief in many of them can be obtained by a resection of the presacral nerve, a procedure that apparently has no ill effects on any of the normal functions of the organ.

Normal contractions of the uterus may occur when it has been severed completely from any connection with the cerebro-spinal system as shown by a case report by Dr. Dan C. Elkin. The patient reported by him had an almost complete transverse lesion of the seventh cervical segment by cervical Pott's disease but went to a full term pregnancy when a normal and almost painless labor occurred.

Various procedures have been used on both autonomic and somatic nervous systems for the relief of the intractable pain of advanced pelvic cancer. Resection of the presacral nerve will sometimes give almost com-

plete relief. I recall one patient on whom I did this and relief was such that the disease advanced to its fatal termination without the use of opiates for pain.

Chordotomy, or the division of the antero-lateral tracts in the cord, has been done. Some may receive relief; others I have seen obtained no relief from it. Several authors report good results from sub-arachnoid injection of absolute alcohol. At the Steiner Cancer Clinic in Atlanta we have injected about twenty patients with only transient relief in a few. One private patient on whom I used this procedure obtained enough relief to be able to reduce the amount of morphine to about one-half of that necessary before the injection.

I believe, though, that many of our failures may be due to the fact that we did not use this procedure early enough, that the patients had become morphine addicts before the injections had been made, so in the future we shall use it before the patients have become addicted to opiates.

Dr. Slaughter, I think, has made a valuable contribution to the investigations being made on this subject of intractable pain and I am glad that I was assigned to discuss it.

Some may ask why subject a patient with an incurable chronic disease to such a radical procedure, but, it seems to me, to be justifiable to give these patients relief, even if it is only for a comparatively short time. Certainly they have nothing to lose, but everything to gain.

Dr. A. R. Rozar (Macon): Mr. President and Gentlemen: Dr. Slaughter is to be congratulated on this paper. To discuss it I feel is very much as if I were trying to discuss the sermon of a bishop who had preached directly from the Bible. The source of information cannot be disputed, and his presentation is good or he wouldn't occupy the position he does as a teacher. My hat is off to a surgeon who tries to do something for the victims such as described by the essayist. In the past we have merely accepted this as a hopeless condition and added to the already miserable state the almost intolerable burden of morphine addiction. Anything that offers relief to these victims, of whom we see a great many more since the advent of high-speed automobiles, and to those suffering from the circulatory diseases such as Buerger's disease and Raynaud's disease, should be encouraged.

I want to thank Dr. Slaughter for the paper, which I feel needs more study on the part of all of us.

Dr. R. Frank Slaughter (Augusta): I wish to thank those of you who have discussed my paper. In closing I would like to recommend to you the subarachnoid injection of alcohol for the relief of pain from inoperable carcinoma.

It was my privilege to do one of the first injections of subarachnoid alcohol in this country at the Harvard neurologic service in the Boston City Hospital in 1931. We translated the work of an Italian by the name of Dogaletti who did the first of these injections. If the injection is done as recommended it is of definite value and practically all pain can be relieved by this method. If you do not get a good result the first time then repeat the injection in three or four days.

THE CHANGING EMPHASIS IN HEART DISEASE*

HAROLD C. ATKINSON, M.D.
Macon

In all fields of medicine there is a continuous search for new truths and for better interpretation and more satisfactory concepts. When these efforts are from time to time successful and progress is made in any field, we find that there is not always a discarding or reversal of old ideas and concepts, but often change of emphasis as to what is more important and what is less so. Probably in no field have such developments been more striking or more interesting than in the field of heart disease.

Due probably to multiple factors, heart disease has moved up to first place in vital statistic lists of causes of death. This has naturally increased the interest, both lay and professional, in the whole question of the nature, recognition, and treatment of heart disease.

From an anatomic standpoint, the emphasis in heart disease may be said to have shifted from within outward, from the heart valves to the myocardium and the coronary vessels. Until recent years, in textbooks and elsewhere, an excessive preponderance of attention seems to have been given to the anatomy and function of the heart valves with no adequate consideration of the myocardial function and its blood supply. The very real importance of the valves in the functioning of the heart is not to be decried, but the point is that whether an individual has a heart murmur or an improperly functioning heart valve, is a secondary consideration compared to the competency of that individual's myocardium which in turn depends largely upon the capabilities of his coronary arteries. I well remember seeing the greater part of more than one clinic hour consumed by attempting to differentiate which of the three cusps of an aortic valve was preponderantly involved in an aortic regurgitation. The really vital point at issue in such a patient would seem to be the extent to which his myocardium was capable of carrying on under the

increased load placed upon it by the valvular defect.

McKenzie was largely influential some years ago in pointing out and repeatedly emphasizing throughout his book the fact that it is the ability of the heart muscle to do the job set for it which determines the outlook and the management in all heart cases. It is interesting to note, however, that at least in his earlier editions he made no reference whatsoever to the coronary arteries.

Myocardosis

In considering conditions of deficiency in the heart muscle, we find that from time immemorial the term "chronic myocarditis" has unfortunately and inaccurately been used to designate conditions characterized by degenerative rather than inflammatory changes in the heart muscle. Some years ago Christian suggested the rather unwieldy term "chronic non-valvular heart disease" with the admission that it was unsatisfactory. In 1926, Reisman applied the term "myocardosis" to this form of heart disease. To Sutton and Lueth in 1932 seems to belong the credit of pointing out that this condition, by whatever name it be called, is due to inadequate coronary blood supply to the muscle and is, therefore, synonymous with coronary insufficiency.

History of Coronary Arteries

The history of the recognition of the relation of the coronary arteries to heart disease is most interesting. It dates, of course, back to Heberden and his classic description of angina pectoris in 1768, in which he included an autopsy report with negative findings. Contemporary with Heberden and interested with him in this problem were Jenner, Fothergill, Pary, and Hunter, the latter himself a victim of angina pectoris. The question of the importance of coronary sclerosis and calcification was considered repeatedly by them but without definite conclusions. Allan Burns, in 1809, reported the effect upon a leg of a tourniquet which made the circulation inadequate and resulted in fatigue and pain in the muscle. He likened this to an inelastic and incompetent coronary artery, which he suggested as a cause of pain in angina. For another hundred years, the coronary arteries were practically left out of consideration.

*Read before the Medical Association of Georgia, Augusta, April 27, 1938.

Forty years ago Sir William Osler became very much interested in the problem under discussion and came very near to the modern concept. He demonstrated coronary occlusion at autopsy and recognized it as a cause of sudden death, but he did not seem to recognize its clinical importance otherwise nor its relationship to angina pectoris.

Although there are at least two prior cases of diagnosis during life of coronary thrombotic occlusion (one in 1848 and one in 1896), to Herrick, in our own time, rightly belongs the credit for clarifying and popularizing the recognition and proper treatment of acute coronary thrombosis. As I have already mentioned, Sutton and Lueth deserve credit for elucidating even more recently the status of chronic coronary artery disease and its production of myocardosis.

Heart Pain

Of great current interest is the relation of the coronary arteries to heart pain. We have already considered how prolonged circulatory inadequacy, as through coronary sclerosis, produces myocardial degeneration or myocardosis. By numerous experimental observations and clinical correlations, it has been conclusively demonstrated that heart pain results from a sudden relative ischemia of the heart muscle. Coronary thrombosis produces such ischemia with persistent pain and other symptoms over a rather prolonged period if death does not supervene. From the time of Heberden, the term "angina pectoris" has been used to designate a group of conditions characterized chiefly by cardiac pain. The cases of coronary occlusion have already been definitely separated from this group, and it is now becoming increasingly evident that the interesting and historic term "angina pectoris" does not represent a distinct disease in itself but a clinical syndrome caused by intermittent ischemia of the heart muscle from multiple causes. In fact, any condition which will produce the relative ischemia will produce the symptoms characteristic of the anginal syndrome. It is well known, for instance, that severe anemia definitely predisposes to anginal attacks. Luetic lesions blocking the aortic orifices of the coronary vessels have been demonstrated in some patients. However, the most frequently demon-

strable physical factor is sclerosis of the coronary arteries. It would seem desirable, as suggested by Paul White in the latest edition of his book, to change the accepted classification of heart disease by deleting "anginal syndrome" and substituting "coronary insufficiency" (with angina pectoris or electrocardiographic evidence). Efforts have repeatedly been made to explain the phenomena of angina pectoris entirely on an anatomic basis such as sclerosis. Some of the facts which make impossible such an explanation on an anatomic basis alone are these:

1. In patients having recurring attacks of anginal pain, the heart shows varying degrees of pathologic change, from a great deal to none at all.

2. A great many patients have been demonstrated in whom the most marked degree of sclerosis of the coronary vessels existed with no history of anginal attacks.

3. Young people with soft arteries but over-wrought nervous systems have attacks of anginal discomfort differing in no way from those described as typical angina pectoris.

4. A patient may be having frequent severe anginal attacks, but if there is cardiac decompensation and the heart dilates, the anginal attacks cease only to recur when compensation is again improved. A loss of tone of the coronary vessel under these circumstances and its inability to contract best explains this phenomenon.

5. In any individual susceptible to recurrent anginal attacks, the attacks are brought on by factors which may be either physical, such as exertion; or psychic, such as fear, anger, etc. It is well known that a man in an executive or professional position may have numerous attacks while at his desk under the strain of his work and few or none while on a vacation even though he be more physically active.

6. Certain races, notably the Chinese and Hindu, are remarkably free from anginal attacks. Houston states that although the Chinese suffer from every other known form of heart disease, neither he nor his predecessor in a Chinese University ever saw angina in China nor did he ever hear of a case in that race.

Since these facts render the symptomatology of angina pectoris apparently unexplainable on an anatomic basis alone, it is evident that a functional factor must be present and nothing, in my opinion, explains all of the known facts as well as Houston's concept of "spasmogenic aptitude." This term represents a tendency on the part of the individual to a neurogenic spasm or constriction of smooth muscle usually resulting from an over-labile autonomic nervous system. Any of the involuntary smooth muscle in the body may be predominantly involved. If it is the muscles of the peripheral and renal arterioles, hypertension results. If it be the muscles of the gastro-intestinal tract, we get the various types of nervous indigestion with which we are familiar. If this spasm involves predominantly the coronary arteries, the result is a temporary ischemia of the heart muscle producing the anginal syndrome.

Angina of effort might well be explained on the basis of a coronary artery whose lumen is so narrowed by pathologic changes that it cannot supply blood required by the additional demand, but anginas at rest and from emotion and those showing little disease at autopsy seem to require the explanation offered above.

The problem of the clinician in any given case is to determine in as far as possible the relative participation of the mechanical factor and the spasmogenic factor. The anatomic factor, usually sclerosis, is of relatively grave significance and most difficult to influence by therapy. The spasmogenic factor is subject to marked improvement if properly handled, and if predominant may be compatible with long life.

Diagnostic and Therapeutic Conclusions

In view of this change in emphasis to myocardium and coronary arteries discussed above, may we not conclude that from a diagnostic standpoint the duty of the physician in appraising any heart case is to determine in as far as possible the competency of the myocardium both by subjective and objective function tests and by electrocardiographic studies; and, secondly, to determine in as far as possible the relative participation of coronary insufficiency and of coronary spasm in a particular case.

Upon the conclusions reached must rest the prognosis to be given and the treatment to be carried out in each case. The brighter prognosis where spasm predominates has already been mentioned. It is the spastic, not the sclerotic element which can be benefited by sedatives and so-called "vaso-dilators." It has been increasingly emphasized that digitalis is not indicated by valvular lesions nor tachycardia in themselves but only by evidences of real or potential myocardial failure. Where there is marked myocardial ischemia as in coronary thrombosis, oxygen administration is quite helpful and is said to decrease by one-half the narcotic required for pain.

In the majority of cases, the question of management may be said to over-shadow that of therapeutics. The patient must be adapted to his cardiac reserve physically, psychically, and socially.

Physical adjustment involves especially the questions of proper rest and exercise, and the greatest of these is rest. The proper amount of exercise is beneficial but the chief danger is in too much. In a certain case, nine holes of golf may be helpful if followed by proper rest, while eighteen holes would be dangerous. In another case, walking the width of a room may be entirely too much exercise.

The psychic adjustment must steer between the development of a neurosis with the attendant exaggeration of symptoms and fears, and on the other hand an attitude of resenting and minimizing the symptoms with an effort to maintain former levels of activity in spite of them.

My own two favorite words which may be set as a goal for this group of patients as well as many others are *moderation* and *serenity*. Moderation and common sense in all things is a high ideal. Serenity is a state of mind almost unknown to the majority of patients who develop this type of trouble. If it does become necessary for these patients to give up their work entirely, it is very helpful if they can develop interests involving activities within the range of their ability. Where a man is permitted to continue to do some or all of his work, it is frequently necessary to curtail numerous social, civic, religious, and other public activities. Although domestic or financial difficulties may be entirely outside the range of the physician's control, he is

frequently called upon to help his patient make the best adjustment possible to them.

To summarize in conclusion, we may say that the recent emphasis in heart disease has been away from the heart valves to the myocardium and more particularly to the coronary vessels which supply it and in large measure determine its competency. Both anatomic and spastic factors may enter into the production of myocardial ischemia and the extent to which each is involved determines the prognosis and the treatment indicated.

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DISCUSSION ON PAPER OF DR. H. C. ATKINSON

Dr. Hartwell Joiner (Gainesville): Mr. President and Members of the Medical Association of Georgia, and Visitors: I have enjoyed very much reading and hearing Dr. Atkinson's paper and I have enjoyed the presentation. I have only two suggestions. I think it is a very complete paper and it is full of common sense. The suggestions I have to make are these: First, in our changing emphasis from the endocardium, or from inward outward, let us not forget the damage to the heart muscle that a damaged valve can ultimately produce. In the management of these cases let us change our philosophy or attitude to that of the South Georgia "nigger" and sit loose.

Dr. James E. Paullin (Atlanta): Mr. President and Members of the Association: Dr. Atkinson has given us a very timely and interesting paper on heart pain. He has directed our attention to certain features of this syndrome which at the present time are not well understood. In connection with the paper previously presented by Dr. Slaughter, in which he detailed the physio-chemical changes occurring at the synapse of the sympathetic nerve fibres during stimulation, whereby there is produced the substance acetylcholine, it is quite interesting to note that recently Dr. Hall, working in the laboratory of Dr. Banting at Toronto, reported at a recent meeting of The American College of Physicians observations made on dogs after the injection into these animals of dilute solutions of acetylcholine. Hall observed that acetylcholine so administered, after a period of time, would produce distress, dyspnoea, fever, leucocytosis and pulmonary edema. Pathologically, the

heart muscle would show changes comparable to coronary occlusion.

Concomitant with the injection of acetylcholine there is a diminution of the glycogen storage and an increase in the lactic acid of the myocardium. When the lactic acid reaches a concentration of 70 milligrams per cent, asystole occurs.

If one might be allowed to transfer experimental work done on dogs to man, would it sound unreasonable to suppose or to conjecture that in the highly emotional individual who exhibits the "spasmogenic aptitude" and who suffers from various degrees of steno-cardia, might not some of this discomfort come about because of undue overactivity of the sympathetic nervous system, resulting in over production of acetylcholine? Would not such a supposition (that chemical changes occurring in the heart muscle) be a satisfactory explanation for those patients who have attacks of angina pectoris and who at post mortem show no disease or minimal disease of the coronary arteries? Would the action of nicotine, in causing vaso-constriction of the arterioles and capillaries of the myocardium and producing heart pain, be susceptible to a physio-chemical explanation.

The causes of steno-cardia in all patients have not as yet been fully and satisfactorily explained. The important point in Dr. Atkinson's paper is that the integrity and efficacy of the myocardium is the sine qua non upon which one can base an opinion as to the circulatory efficiency of a given individual.

Dr. H. C. Atkinson (Macon): I appreciate very much the discussion given by both of these gentlemen. There are two big questions raised in my own mind in studying this subject which I did not touch on at all in this paper. I have referred to spasmogenic aptitude and to sclerosis as though they were well understood ultimate diagnoses. The question which I wish to raise is as to the actual nature of these conditions. Dr. Paullin's discussion of the recent demonstration of acetylcholine in the nerve synapse is an illustration of a step in this direction. We must find out exactly what goes on in the heart muscle when a person is under nervous strain and develops spasm of the coronary artery. Possibly even a bigger aspect of the problem deals with the real nature of sclerosis. This is a condition about which we really know all too little. It seems to me that our line of future progress lies in discovering what is the real nature, the cause, and prevention of both angiospasm and sclerosis.

In order to determine their comparative performances for air conduction tests and the need for pure wave form in clinical practice AUSTIN A. HAYDEN, Chicago (*Journal A. M. A.*, March 5, 1938), investigated four audiometers of different make. Audiometers, despite their variations, furnish the best means of testing hearing acuity. Any one of the four tested will be more useful in clinical practice than any other means now available for testing and recording hearing acuity. The lack of purity of sound wave apparently did not introduce any serious errors that were not largely explainable by other causes. A quiet room is essential. The need for a soundproof room increases as the loss of hearing to be tested decreases.

STUDY OF MATERNAL MORTALITY AND INFANT DEATHS—1937*

H. F. SHARPLEY, JR., M.D., *Chairman*
Savannah

Georgia's maternal mortality has been reviewed and a brief statistical sketch is herewith presented. In addition a summary of the common factors contributing to this State's maternal mortality rates has been ascertained by reviewing all previous reports and available records. Recommendations are also made for reducing each principal cause contributing to our maternal mortality rates.

Contents

1. Statistics
2. White and Colored Rates Compared
3. Three Causes of Death Predominate
4. Eclampsia
5. Prenatal Care
6. Puerperal Sepsis
7. Abortions
8. Midwives
9. Economics and the Unattended Delivery
10. Recommendations
 - (a) For the People in General
 - (b) For the Profession
 - (c) Economics
 - (d) Organization of Maternal Welfare
 - (e) Aids for the Test Study

Statistics

During the year 1937, there were 63,119 live births recorded and 466 women died from puerperal causes, a rate of 7.4. The number of live births and rates per 1,000 population, stillbirths, deaths under 1 year of age and puerperal deaths with rates per 1,000 live births by color in Georgia, 1937, are shown in Chart 1.

CHART 1

LIVE BIRTHS, STILLBIRTHS
INFANT AND MATERNAL MORTALITY
GEORGIA
1937†

| Number | Total | White | Colored |
|--------------------------|--------|--------|---------|
| Live Births | 63,119 | 37,628 | 25,491 |
| Stillbirths | 3,708 | 1,514 | 2,194 |
| Infant Mortality | 3,930 | 1,985 | 1,945 |
| Maternal Mortality . . . | 466 | 238 | 228 |
| Rate | | | |
| Live Births | 20.5 | 19.2 | 22.9 |
| Stillbirths | 58.8 | 40.2 | 86.1 |
| Infant Mortality | 62.3 | 52.8 | 76.3 |
| Maternal Mortality . . . | 7.4 | 6.3 | 8.9 |

†Figures for 1937 are not final at this time.

The difficulty in making a comparative study of Georgia's maternal mortality rate is due to several facts. Georgia has not been in the registration area for as long a time as many of the other states, while some other states

have been in a shorter period of time. Should or should not the improvement in rates (Georgia has improved) be the basis of comparison rather than the rates themselves? Different states have different problems confronting them (Mississippi and South Carolina are more like ours).

Georgia's maternal death rates may be compared to that of the United States and each state for 1936 as shown in the accompanying Chart 2, the latest issued by the Bureau of the Census.

CHART 2

NUMBER OF MATERNAL DEATHS PER 1,000
LIVE BIRTHS, BY STATES—1936

| | | | |
|--------------------------|-----|-------------------------|-----|
| UNITED STATES | 5.7 | Montana | 5.5 |
| Alabama | 7.4 | Nebraska | 5.0 |
| Arizona | 9.1 | Nevada | 5.6 |
| Arkansas | 7.6 | New Hampshire | 4.8 |
| California | 4.7 | New Jersey | 4.0 |
| Colorado | 7.1 | New Mexico | 7.4 |
| Connecticut | 4.1 | New York | 4.9 |
| Delaware | 7.1 | North Carolina | 6.6 |
| District of Columbia . . | 6.9 | North Dakota | 4.3 |
| Florida | 8.1 | Ohio | 5.0 |
| GEORGIA | 8.2 | Oklahoma | 6.2 |
| Idaho | 4.4 | Oregon | 5.4 |
| Illinois | 4.5 | Pennsylvania | 5.2 |
| Indiana | 4.8 | Rhode Island | 4.0 |
| Iowa | 4.6 | South Carolina | 9.0 |
| Kansas | 5.7 | South Dakota | 4.6 |
| Kentucky | 5.6 | Tennessee | 7.0 |
| Louisiana | 8.7 | Texas | 6.9 |
| Maine | 5.1 | Utah | 4.4 |
| Maryland | 4.7 | Vermont | 5.0 |
| Massachusetts | 4.9 | Virginia | 5.8 |
| Michigan | 5.2 | Washington | 5.2 |
| Minnesota | 4.2 | West Virginia | 5.3 |
| Mississippi | 6.9 | Wisconsin | 4.2 |
| Missouri | 6.1 | Wyoming | 5.0 |

Georgia's rate for the preceding year (1935) was 7.3 and for the present year (1937), 7.4.

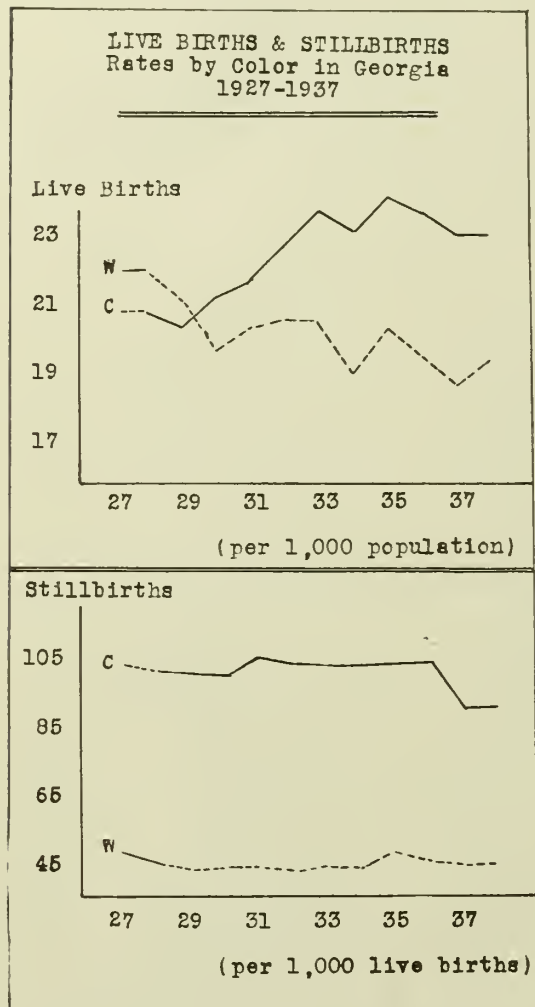
In reviewing Georgia's maternal mortality, certain gross facts are outstanding which have never shown among the conglomeration of details usually necessary for completeness. These details, though valuable, readily accumulate when the answers to a few simple questions are compiled regarding the patient in question—such as age, color, rural or urban, primipara or multipara, attendant, condition of infant, prenatal care, intrapartum, postpartum, causes of death, place of delivery, place of death, etc. This information may be further subdivided into some phases of the technic at delivery and again subdivided by the 159 counties. The original certificate of death merely showed the patient died from childbirth. Throughout this fine meshwork of details several outstanding facts are common to this State's maternal mortality.

*Report of the Committee for the Study of Maternal Mortality and Infant Deaths to the House of Delegates of the Medical Association of Georgia, Augusta, April 26, 1938.

White and Colored Rates Compared

The first outstanding point comes to light in reviewing Georgia's rate for each year by color as shown in Charts 3 and 4.

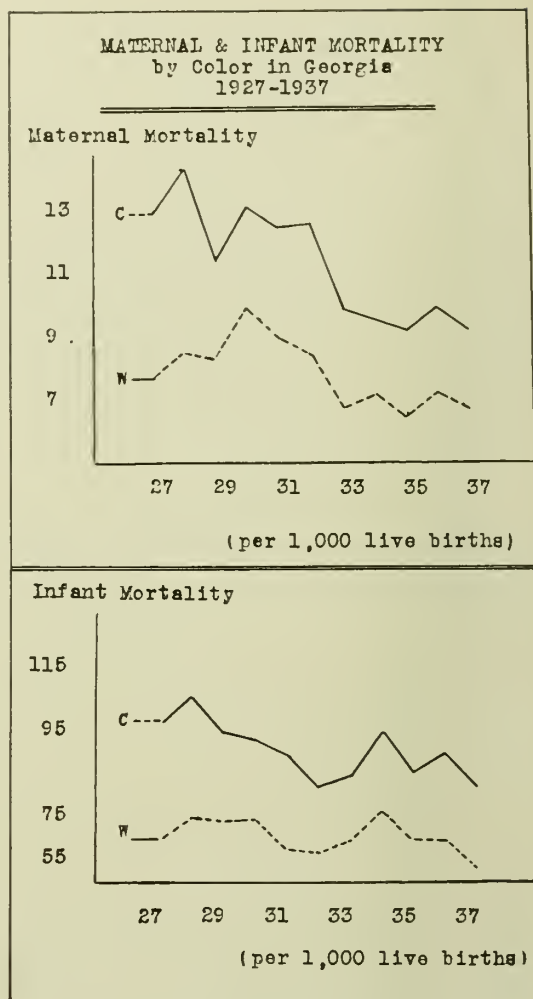
CHART 3



The colored race maintains a higher death rate for both mothers and infants. The colored maternal deaths are apparently higher in the cities and surrounding counties. On the other hand, the cities do well with the white maternal rate when the natural movement of the people is from the country to the city requiring increasing facilities. The country boy of 15 years ago is the city citizen of today. In addition, the hospitals (in the cities) handle many prenatal and delivery complications arising in rural areas.

The white birth rate has been lower than the colored for the past nine years. To reduce stillbirths, much more antisyphilitic treatment is needed prenatally in the colored race. Their stillborn rates continue to remain much higher than the white. A reduction in stillbirth rates would improve our maternal and infant rates.

CHART 4



Three Causes of Death Predominate

In reviewing the causes of death, a second point comes to view, that three large groups of the causes of death predominate each year, namely—eclampsia (toxemia), puerperal sepsis and abortion (sepsis). These three preventable diseases account for about two-thirds (see Chart 5) of the puerperal deaths.

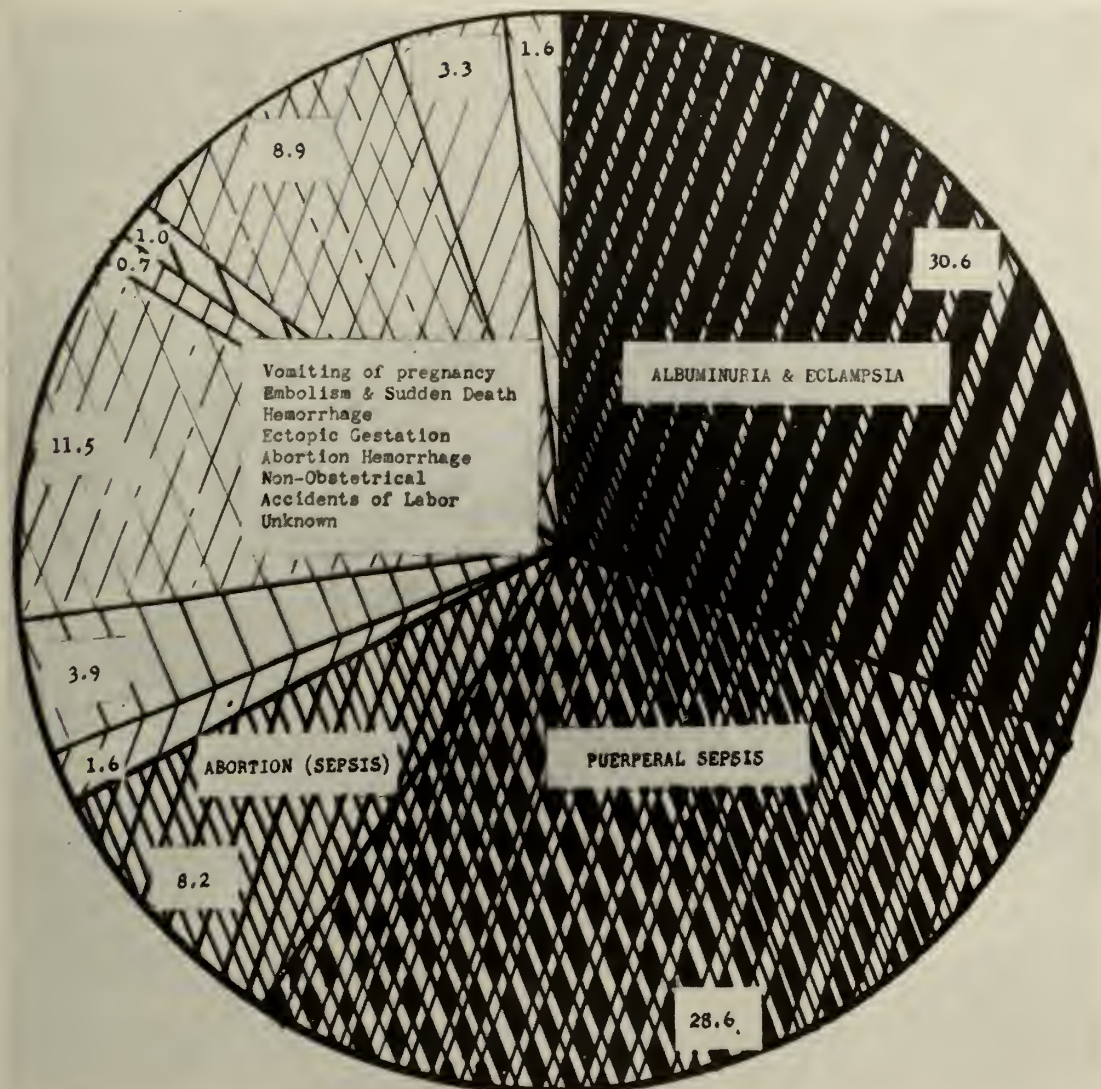
CHART 5

The remaining one-third of the deaths may be distributed among 8 causes, some of which are not preventable, and others preventable, if expensive facilities and equipment were everywhere available, while others could have been prevented had the preventive measures been instituted for the larger group.

In the birth registration area of the United States, puerperal sepsis leads the list of causes of maternal deaths. In Georgia, eclampsia leads the list of causes, which is also true in South Carolina.

Eclampsia

As shown in Chart 5, eclampsia leads the list of causes of maternal deaths—a *preventable disease*—with early conscientious prenatal care. Over 50 per cent of the patients losing their lives with eclampsia receive no



prenatal care and another 30 per cent make three visits or less to a physician, indicating prenatal care was not instituted early. How many mothers of the 62,653 other births who escaped eclampsia had prenatal care?

Prenatal Care

Early prenatal care is the responsibility of the people in general.

Is early prenatal care too new to be grasped by the women or will the thorough education of husbands and young men as to the value of early prenatal care be necessary before it is adopted by the people as a standard procedure for pregnancy?

Early prenatal care, in addition to eliminating eclampsia, will permit the treatment of syphilis with a reduction in stillbirths due to that disease.

A most valuable point in early prenatal care is the making of delivery arrangements and this one fact will eliminate many complications now listed against delivery service

which rightfully belong to prenatal care. Prenatal care, when established, will improve our rates to a certain point and beyond this, delivery service will have to add the additional improvement from which prenatal care will reveal much information.

Puerperal Sepsis

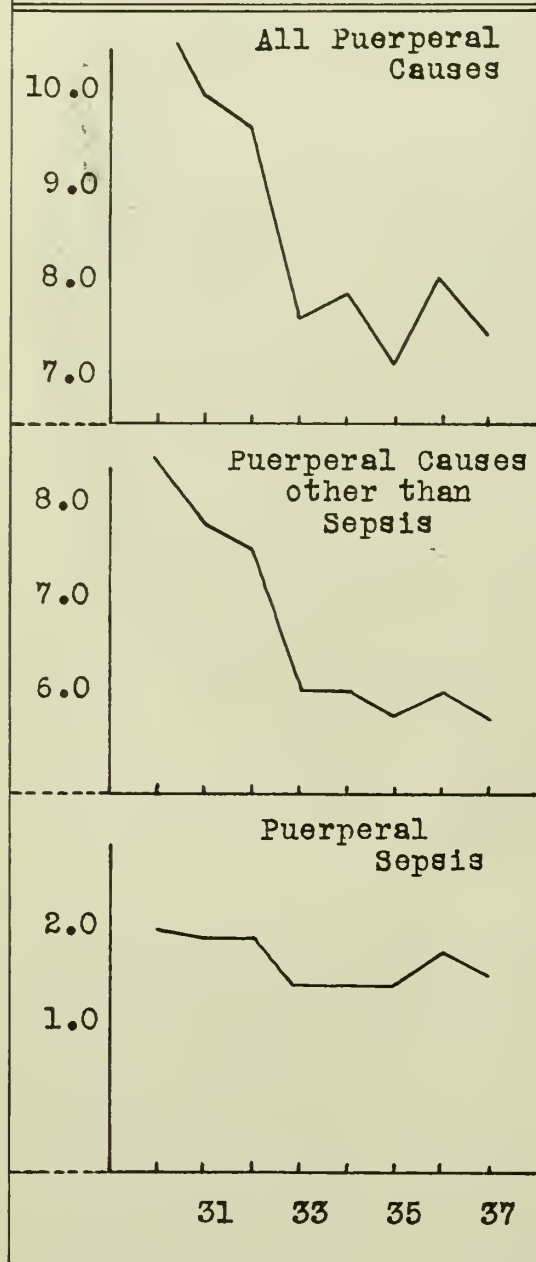
Puerperal sepsis—a disease in which the people in general are not responsible. They cannot eliminate it as this condition is hardly influenced by prenatal care. It occurs at the time of delivery and is a direct offspring of delivery technic in the home or hospital. During the past ten years approximately 1,250 mothers lost their lives in Georgia through this one disease.

CHART 6

In studying Chart 6 it is noted that puerperal sepsis has not contributed to any appreciable improvement in our rates.

Because the introduction of a sterile or unsterile gloved hand or instrument into the

PUERPERAL SEPSIS

Georgia
1930-1937

genital canal is only too often done without serious consequences has been the one factor why the bacteria of the vulva skin have not been viewed with contempt. The physician who cannot do rectal examinations is seriously handicapped. For the time he expends in thoroughly preparing the vulva before each and every vaginal examination is a direct

loss to him. In addition frequent vaginal examinations require an extra expenditure for sterile gloves and an abundant supply of sterile water, soap and antiseptic solution for him or his hospital. The curative treatment of sepsis lies in the prevention which may be summed up as follows:

1. Regard the genital canal as a place for neither hand nor instrument.
2. Do less vaginal examinations, and then only when necessary.
3. Strict asepsis before, during, and after delivery.
4. Omit all douches and other medication in the genital tract.

Excellent technic and the most skillful maneuver through an unprepared or half-prepared vulva is sometimes (see Chart 5, Puerperal Sepsis) for naught. This preparation is entrusted to nurses, midwives and other attendants without first observing their technic of operation.

Whether the bacteria of the vulva skin were originally there or were put there by unsterile hands, instruments, or gloves or were smeared there from the rectum by a sliding vulva pad, would not these following special points have helped to have kept them from entering the genital tract?

1. Scrub hands and nails.
2. Use an extra pair of sterile gloves to prepare the vulva instead of sponge forceps. Use a fresh pair of sterile gloves for the examination.
3. Discard each sponge or pledget of cotton after it has been used once and then only downward.
4. Keep the examining hand in until all has been learned from the examination, then remove and don't re-insert.
5. Prepare all over again for each examination.
6. *To Remember*—a delivery with no vulva preparation and no vaginal examination is far better than one with the vulva skin half prepared with a vaginal examination.

The rates for puerperal sepsis are probably much higher. Some cases have gone undiagnosed, others were diagnosed eclampsia, and still others misdiagnosed for terminal pneumonia and other diseases.

Abortion

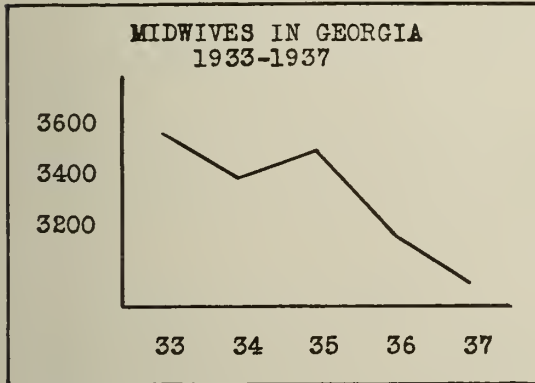
Education of the public is the only solution. Today the present system of rates is concealing the abortion under the term maternal death rates. Quoting maternal death rates gives the impression that all deaths occurred at childbirth. Where is the child (live-birth) in an ectopic pregnancy? Some system of measurement is necessary of course. Some day we will probably have a very complex system of registering certificates of births, stillbirths and ectopics, etc., probably a different

colored sheet for each condition and probably an even more complicated system for a maternal death. Today the division of the maternal mortality rate into two rates—the puerperal and the obstetrical—will bring the abortion to light and separate it from the full-term delivery, thereby relieving the American physician of some of the criticism now being directed by the newspapers and popular magazines on childbirth.

Midwives

The number of midwives in Georgia has been reduced as shown in Chart 7.

CHART 7



This is gratifying, not that we direct any malice as we do know they absorb a considerable number of otherwise unattended deliveries but we do know that with fewer midwives the caliber improves. For example, in 1936 in Crawford County; there were 5 midwives with 80.5 per cent midwife deliveries. In Fulton County there were 65 midwives with only 2.9 per cent midwife deliveries. They can be better selected for education, better trained and better supervised—quality for quantity—for themselves and the mothers in Georgia.

CHART 8

COUNTIES LEADING THE LIST IN THE LARGEST NUMBER OF MIDWIVES

| | | | |
|------------|----|---------|----|
| Burke | 74 | Fulton | 65 |
| Washington | 66 | Lowndes | 56 |
| Sumter | 49 | | |

CHART 9

COUNTIES LEADING THE LIST IN POSSESSING THE LEAST NUMBER OF MIDWIVES

| | | | |
|----------|---|---------------|---|
| Dade | 3 | Chattahoochee | 5 |
| Tattnall | 3 | Jeff Davis | 5 |
| Banks | 5 | Lumpkin | 5 |
| Parrow | 5 | Crawford | 5 |

CHART 10

COUNTIES WITH THE HIGHEST PERCENTAGE MIDWIFE DELIVERIES

| | | | |
|---------|------|--------|------|
| Twiggs | 91.8 | Lee | 89.7 |
| Stewart | 90.5 | Camden | 84.0 |
| Baker | 83.5 | | |

Three of the counties in the last group are counties with large cities. Of interest only,

there were three male white midwives in Georgia in 1937.

CHART 11

COUNTIES WITH THE LOWEST NUMBER MIDWIFE DELIVERIES

| | | | |
|----------|-----|--------|-----|
| Fulton | 2.9 | Dade | 8.4 |
| Chatham | 6.6 | Walker | 9.3 |
| Richmond | 9.5 | | |

Economics and the Unattended Delivery

Because childbirth is part of the physiologic process of reproduction, a great deal is taken for granted. Taking things for granted does not insure any preparedness in the event of a complication or emergency. This fact accounts for many maternal deaths. The public has economized on childbirth, considering it to be entirely a physiologic process. Just the opposite is true, as childbirth is not the thing to economize on as each case should have all the preparedness, always ready, in the event of an emergency. (A case of hemorrhage 100 miles from a transfusion and a hospital is not preparedness.) Compare medicine in industry where there is economic pressure (Workmen's Compensation) to the economic background of maternal care. The husband goes to work—here we find him accepting any amount of preparedness—safety devices and guards on the machines; posters on the prevention of accidents and safety records; rules compelling him to wear goggles and tight clothing. In other words, he receives prenatal care (in obstetrical terms). In case of accident he is well taken care of as millions are spent annually for injuries. Here he receives delivery service (in obstetrical terms). Maternal care lacks this preparedness for an economic reason all because it is considered a physiologic process.

The maternal death rate doubles itself among the unattended deliveries. The Committee of last year made an attempt to study the number of charity obstetrical patients, but the difference between a non-pay private patient and a charity patient clouded the study. Information was obtained that delivery service for \$10.00 or less was a custom in many areas.

The needs are greater in the country where incomes are lower. In 1929, one-fifth of the population made less than \$1,000 and could only afford \$35.00 per year for medical care, including physician, hospital, dentist, drugs, eye-glasses, etc. Incomes are 50 per cent less now than in 1929. Twenty per cent are on relief while 50 per cent require hospital aid.

There are a larger percentage of births in the states with a low per capita income than in the states with a high per capita income.

To uplift maternal care preparedness has to be supplied to every supposedly normal delivery. This will require an economic background and the reduction in maternal rates

will only be in proportion to the economics.

CHART 12
NUMBER OF CHILDREN UNDER 15
PER 1,000 ADULTS
20 TO 64 YEARS OF AGE

| | |
|--------------------------------|---------|
| South Carolina | 800-850 |
| Georgia | 650-700 |
| Florida | 500-550 |
| New York | 400-450 |
| District of Columbia | 300-350 |

However, some facts contributing to our maternal and infant rates can only be lowered with a high economic background; that is, the establishing of hospitals for delivery service throughout all the rural areas of Georgia. Some facts contributing to our maternal rates require little or no economic background and it is with these that we should begin.

Recommendations

The study of the maternal and infant mortality rates was undertaken several years ago by THE MEDICAL ASSOCIATION OF GEORGIA. This Committee has made a summary of the common factors contributing to Georgia's maternal and infant mortality by reviewing all of those reports, and records within and without the State of Georgia. While other recommendations could be made, certain recommendations can be made to cover certain large facts contributing to our rates possessing at the same time a low economic background.

The Committee, with this in mind, offers the following recommendations, designed to lower Georgia's maternal rates, to supply more reliable information, to shed further light on future studies and to study the ability of groups to respond to advocated measures.

That the year Jan. 1, 1939 to Dec. 31, 1939 be designated for a special study of our rates. (This study could be continued through 1940.) A drive (outlined below) to be put on and led by THE MEDICAL ASSOCIATION OF GEORGIA and the State Board of Health and carried on throughout the year of the test study.

A.—For the People in General

1. Eclampsia is a preventable disease with prenatal care if the people could be made to realize this. They are far from this goal. Prenatal care will not only reduce eclampsia and syphilis, but eliminate the last minute making of delivery arrangements (nine full months to make such arrangements even if prenatal care had been unheard of). Prenatal stations in each county for the indigent conducted by the physicians of this Association in conjunction and cooperation with the State Board of Health.

2. The making of delivery arrangements prenatally will bring to view a visualization of the need now and later for delivery service

for the poor which will be the only next step to improve the maternal and infant welfare after prenatal care is fully and conscientiously established.

3. All lay organizations, both local and statewide, rural or urban, made up of either men or women, whether business, religious, fraternal or political, be asked to devote part of one of their meetings to hear the value of prenatal care from a member of THE MEDICAL ASSOCIATION OF GEORGIA.

4. That frequent newspaper editorials be released by local medical societies and the State Medical Association on the value of prenatal care, syphilis, eclampsia and last minute deliveries.

B.—For the Profession

Puerperal infection is an infection the people are not responsible for, as they know little or nothing of delivery technic where the disease usually arises. This, then, is a disease the profession itself should handle with a determination to eliminate. It is herewith recommended that:

1. Through the State Medical Association that each county medical society use one or part of one of their programs for the discussion of the prevention of "Puerperal Sepsis."

2. That THE MEDICAL ASSOCIATION OF GEORGIA in conjunction with the State Board of Health issue small printed cards with some of the rules for the prevention of puerperal sepsis, to remind every physician in the State of the importance of this disease.

3. That each hospital superintendent receive a card, also issued jointly by THE MEDICAL ASSOCIATION OF GEORGIA and State Board of Health, reviewing certain facts on the prevention of sepsis that nurses assigned to maternity wards and delivery room services should know.

4. Each District Nurses' Association be asked to hold one meeting, or a part thereof, for a talk or discussion on the prevention of puerperal sepsis.

5. That special reference to the instructions given to midwives be given on the prevention of puerperal sepsis. The license of any midwife suspected of performing a vaginal examination be promptly revoked.

6. The State Board of Medical Examiners and the State Board of Nurse Examiners be asked to make a special point in obtaining the applicants knowledge of the "Prevention of Puerperal Sepsis" before admission to practice in the State of Georgia.

C.—Economics

Regardless of the fact that all maternity patients require high preventive and protective measures to insure against an emergency, let it be a known fact that many mothers are unattended and that funds are necessary for the poor and needy so that many of these lit-

the fellows, born unattended, can be assured of warm and decent births as future citizens of our State.

D.—Organization of Maternal Welfare

That THE MEDICAL ASSOCIATION OF GEORGIA, and each member, support and co-operate with all State and national organizations in any and all maternal welfare movements, such as the Committee on Maternal Welfare, the Children's Bureau of the U. S. Department of Labor and the State Department of Health, etc.

E.—Aids for the Test Study

1. In the extensive study of maternal and infant deaths planned for 1939, it is asked of all physicians that good records be kept on all obstetrical patients, with less trust to memory.

2. The prompt registration of birth and deaths will be a great aid to the Committee.

3. During 1939, that the State Board of Health be asked to add a rider to every birth certificate requesting the length of the newborn in inches, whether it be a live born, still-born, a fertilized ovum, or a fetus.

4. That each member of this Committee be known as the district chairman to supervise the study in his district, and be permitted to appoint a physician in each county interested in obstetrics to be known as the county committeeman.

The physicians of Georgia do a noble job: they supply prenatal, delivery and postnatal service to the majority of patients under trying and difficult circumstances without adequate facilities. They respond to calls for many last-minute deliveries and also attend many cases which are classified as attended which would be otherwise unattended.

The Committee thanks Dr. Hugh J. Bick-erstaff of the Bureau of Child Hygiene whose aid has been invaluable.

The Committee again thanks Mr. Butler Toombs of the Bureau of Vital Statistics who has contributed much assistance.

Finally, the Committee thanks Dr. David M. Wolfe, Mr. Frank G. Woodruff of the Bureau of Vital Statistics and Miss Quinney Fort for assistance.

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of Maternal Mortality.*

**SOME ERRORS IN THE DIAGNOSIS
AND TREATMENT OF CARDIO-
VASCULAR DISEASE†***

Under- and Over-Digitalization

HUGO ROESLER, M.D.
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Under-digitalization is nowadays less common than it was some time ago. Yet, one still sees cardiac patients, and I am referring here particularly to the group with auricular fibrillation with marked tachycardia, where nausea and vomiting dominate the clinical picture. This may be erroneously attributed to digitalization, and this drug is then discontinued. An exact computation of the amount of digitalis given, however, reveals that the amount was entirely inadequate and that rapid and quick digitalization makes nausea and vomiting disappear almost miraculously. If a physician is in doubt as to whether a marked digitalis effect is present, it is advisable to obtain an electrocardiographic tracing because the marked effect of this drug shows its expression in the tracing.

Over-digitalization is on the increase, whereas it was rarely seen formerly. Digitalis may accelerate cardiac failure. From a general clinical viewpoint, it should be recalled that the patient should be watched not only for those symptoms of poisoning which are generally known, namely, nausea, vomiting and disturbances of vision, but also attention should be paid to personality changes with dizziness and disorientation as leading features. Such conditions apparently have been responsible for what was formerly diagnosed as cardiopathic psychosis.

The arrhythmias caused by digitalis may be placed into two groups; the first featured by conduction fault, the second by increasing

†From the Department of Medicine, Temple University School of Medicine and Temple University Hospital, Philadelphia, Pa.

*Read before the Atlanta Graduate Assembly, Atlanta, January 25, 1938.

evidence of toxic irritability of the heart muscle. The first group does not cause serious concern, even those cases of marked bradycardia and heart block, since such conduction disturbances will disappear soon after digitalis therapy is stopped. The second group is characterized by extrasystoles in its various phases; first isolated, later in coupled rhythm, and finally in ectopic tachycardias. Ventricular tachycardia is not uncommon. In comparison with the first group, many instances of this type of digitalis poisoning are serious.

Elderly patients with a sclerotic myocardium may respond abnormally to an amount of the drug which is entirely innocent for other patients, particularly in the younger group with rheumatic etiology of heart disease. Another important point to be considered is what has been called "spontaneous re-digitalization." With the improvement in diuretic management, and here particular reference is made to the mercury compounds, edema as such is much more readily controlled, and while we watch the intake and output or weight drop, we do not regard the concentration of a drug such as digitalis or of waste products, both of which may be less easily eliminated than fluid. It is an often observed clinical experience that the patient, one or two days after a rapid diuresis, becomes ill with nausea, vomiting, weakness, giddiness, headache and perhaps simultaneously there appear disturbances of the heart action, such as heart block or extrasystoles of the bigeminal type and even nodal or ventricular tachycardias. Schnitker and Levine have pointed out that digitalis is present in the edema fluid in the pleural and peritoneal cavities, as well as in the legs. During active diuresis the digitalis is mobilized and the heart and nervous system are suddenly exposed to this additional amount of the drug. It has been figured out that in the course of rapid diuresis $7\frac{1}{2}$ grains of digitalis may be added over a period of 24 hours to an already digitalized heart. The presence of digitalis in the body fluids can be demonstrated by perfusing a heart-lung preparation in a frog. The heart comes to a systolic standstill and it is impossible to obtain any recovery by repeated washing of the heart.

For the treatment of digitalis poisoning, we have two drugs available. One is quinine; about 20 grains should be given equally distributed over a period of 24 hours, i.e., the midnight dose must not be omitted. Quinine depresses the hyper-excitability and contractility of the myocardium. The other drug is magnesium sulphate; it interferes with excitation and conduction while contractility remains preserved. One gives 10 to 20 cc. of a 15 per cent solution of magnesium sulphate intravenously. The first 5 cc. are injected rapidly, the rest slowly.

One other drug that is sometimes used with cardiac irregularities, and these irregularities in some cases may well be due to over-digitalization, is calcium. It has been experimentally shown, and there is clinical proof, that calcium, when given to a patient who has been digitalized, may be harmful, especially if given intravenously. It may be well then to keep in mind that a patient who has had ample digitalis, and who is showing marked cardiac irregularities, should never receive calcium intravenously.

Sleeplessness in Cardiac Patients Erroneously and Unsuccessfully Treated By Sedatives and Narcotics

Whenever a patient with heart disease, particularly of the hypertensive, arteriosclerotic group, complains of sleeplessness, one should be on the lookout for Cheyne-Stokes respiration. Dyspnea is often mild during the day and only a very careful examination with the patient completely relaxed will reveal a trace of the periodic type of respiration. Cheyne-Stokes is always more pronounced at night and it therefore behooves the physician or the nurse in attendance to watch for this sign. In less severe cases, the patients complain only of difficulty in falling asleep within the first hours of the night while the rest of the night is peaceful. In the more severe cases, a tormenting sleeplessness results. Hypnotics and narcotics merely lead to marked confusion. Aminophylline, given intravenously in amounts of from 4 to 12 grains (10 to 30 cc.), is the specific treatment, and may well be used if there is doubt as to whether or not Cheyne-Stokes respiration is responsible for the lack of sleep. Aminophylline causes central excitation and it is, therefore, not surprising to find that a patient is much relieved

and yet does not fall asleep. One, therefore, should add a sedative or light hypnotic.

*Cough of Cardiac Origin Erroneously
Diagnosed as Bronchitis*

Chronic pulmonary congestion, such as observed in the course of mitral stenosis or left ventricular failure, may be accompanied by cough which, of course, is not cured by prescribing codein and expectorants. Proper management, including digitalization, makes such a cough disappear. It is not commonly known that extrasystoles may give rise to a tickling sensation in the throat and the patient then complains of cough and need not be aware of extrasystoles.

*Error in Diagnosis of Arterial Embolism or
Thrombosis in the Extremities, Where
Arterial Spasm Is Present Subsequent
to Sudden, Massive, Venous
Thrombosis*

Here we are not concerned with the following types of thrombosis in the veins of the legs, affecting: (a) the saphenous vein, with resulting reddening of the skin and perivascular infiltration; (b) the smaller, superficial branches of the leg (varicose or otherwise) where the thigh is not involved; (c) the deep thrombosis in the calf muscles, which is clinically silent; in the latter there is no tenderness, discoloration or swelling, but if the patient leaves the legs dependent for some time, as in the standing or sitting position, the foot becomes a little blue, the ankle a little swollen, and walking brings out the changes more clearly.

We are dealing here with thrombosis which exclusively affects the deep femoro-iliac veins and often will reveal the common signs, i.e., normal skin temperature, edema, distended veins, the whole leg and thigh being affected, and tenderness follows the femoral vessels. An arterial reaction must be assumed for a good many cases, since the femoral pulse is slightly weaker on the affected side, and this is observed prior to the onset of swelling as are also oscillometric amplitudes. Other cases with a sudden onset of a massive thrombosis give an alarming picture, imitating sudden arterial occlusion. There are actual signs and symptoms of markedly diminished arterial blood supply. Pallor and mottled cyanosis, pain, lowering of skin temperature, numb-

ness, lack of reflexes, and muscular weakness. The arterial pulsations are palpated very slightly or not at all, and the oscillometric amplitude is much diminished. A number of instances are known where the operation showed the femoral artery in maximal spastic contraction but free from an embolus.

In differential diagnosis one must consider the mode of onset and the known possibilities of embolism. Puerperal sepsis or a recent laparotomy speak in favor of venous thrombosis. Disease of the aortic or mitral valves and thrombosis on the walls of the heart, particularly if associated with auricular fibrillation, speak in favor of arterial embolism: obstructive athero-sclerosis or thrombo-angiitis, in favor of arterial thrombosis. Arterial spasm, due to massive venous thrombosis, usually disappears in a few hours and venous swelling makes its appearance. If one is in doubt, such a case should be handled like an arterial embolism, i.e., repeated intra-venous injections of $\frac{1}{2}$ to 1 grain of eupa-verin, morphine hypodermically, and whiskey, and if no improvement is shown in a few hours, surgery is indicated.

In this connection, we would like to mention that edema of the ankles and the legs are often considered to be cardiac in origin, and the patient is thus given unjustifiable worry. It is well to remember that obesity, varicosity (perhaps in association with flat feet), and venous thrombosis in the past are common causes of edema. Heart disease, of course, has to be excluded.

*Pain of the Anginal Type Not Due to
Coronary Artery Disease*

We will limit ourselves to two examples.

It is not commonly appreciated that patients who have attacks of paroxysmal, auricular tachycardia or fibrillation may suffer severe cardiac pain. This is due to the marked diminution of the minute-volume of blood which in turn leads to a relative anoxemia of the heart muscle. If you must rely upon the history exclusively, the patient may not mention at all palpitation and tachycardia, for what impressed him most was, of course, the severe pain. A patient of ours, 38 years of age, with an old mitral heart and typical thyrotoxicosis, had auricular fibrillation which was well managed by digitalis treatment. He was transferred to the Department

of Surgery where a part of the preoperation routine procedure is to discontinue all previous medication. On the ninth day he was operated upon with a heart rate of 98 and pulse rate of 88. The same night he experienced a rapid and strong heart action and simultaneously there appeared severe pain over the whole heart area, radiating to the back. This prevented him from sleeping. Examination showed the general appearance to be satisfactory, auricular fibrillation was present, with a ventricular rate of 160 and a pulse rate of 120. Eight cubic centimeters of the tincture of digitalis were given immediately, and within a few hours the pain disappeared and there was a slowing of the heart rate and diminution of the pulse deficit.

Another patient, aged 43, was referred to us with a question of coronary insult and cardiac infarction. Five weeks earlier while driving in bad weather, he felt an electric shock-like sensation shooting from the left wrist to the heart area where pain was so severe that he could not get his breath and ground his teeth and perspired profusely. The left arm was numb, the left hand was cold, and his wife could not feel the pulse at the left side although it was present at the right side. He also vomited. For the next few days he had a splitting headache and weakness of one side of the face. A similar attack occurred a few days prior to the examination. The cardiovascular examination, including electrocardiogram and Wassermann, was entirely negative, but there were found remnants of a lesion involving the fifth, sixth and seventh cranial nerves at the right and the pyramidal tract on the left. The conclusion was that this patient had had a cerebral vascular spasm or thrombosis with peripheral arterial spasm and pain of central, thalamic origin.

*True Angina Pectoris of Coronary Origin
Erroneously Diagnosed as Rheumatism,
Indigestion or Acute Upper Abdomen*

The anginal pain may be occasionally localized exclusively in one hand and wrist though a careful history will elicit that it is aggravated by exertion or excitation. Permanent shoulder pain, particularly at the left side, occasionally at the right side, is noted in connection with angina pectoris subsequent to cardiac infarction, and new infarcts may

aggravate such a pain which is erroneously thought to be either of an arthritic or neuritic type.

Cardiac infarction is very commonly referred to by patients as indigestion, one reason being that the pain may be felt exclusively as pyrosis, or because nausea and vomiting are the leading features, or because belching gives relief. Severe pain may be experienced exclusively in the epigastrium, and rigidity may be present so that perforated ulcer may be suspected. It is very important to obtain an electrocardiographic tracing, but we wish to report on one of our cases where the electrocardiogram showed an infarct, and the postmortem examination revealed a coronary thrombosis with an infarct and abscess formation and also a perforated ulcer. It is not unlikely that the cardiac condition followed the ulceration of the stomach.

*Erroneous Diagnosis of Mitral Regurgitation
During Pregnancy*

The high position of the diaphragm during pregnancy may lead to a considerable discomfort with symptoms referred to the heart. The patient gives this history. Due to the transverse position of the heart, the physician may erroneously diagnose enlargement of the heart to the left. This assumption seems to be fortified by the finding of a systolic apical murmur which in turn is not due to a valve lesion but is an expression of an increased stroke and minute volume of the heart.

*Confusing Pulmonary Findings in the
Presence of Chronic Mitral
Valvular Disease*

In taking the history of patients with chronic mitral lesions, one hears again and again of pneumonia in the past. Almost always these patients actually had pulmonary infarcts. Pulmonary infarct, on the other hand, is diagnosed when the patient is actually undergoing paroxysmal pulmonary hemorrhage. This condition is relatively innocent, while an infarct very commonly leads to a rapid downward course and requires strictest bed-rest. For the understanding of the next point for differential diagnosis, we should remember that in mitral disease the enlarged left atrium compresses the left lower lobe and elevates and narrows the left bronchus.

If an upper respiratory infection supervenes, the secretion of the mucous membrane

leads to an added stenosis of the bronchus and a partial atelectasis at the left base with resultant bronchial breathing, tympany, and moist and crepitant rales. Hence, in association with fever, pneumonia may be diagnosed. However, the general picture is not one of pneumonia, and the pulmonary findings usually clear in the course of a few days.

Conversion Hysteria with Cardiac Manifestations

Only a very short case report will be given. The patient, a lady 40 years of age, had the following chief complaints: tiredness, loss of 25 lbs. of weight in the course of several months, crying spells and tension, unable to sleep on left side because of "heart condition," soreness half way between the left breast and costal arch, and in the third left intercostal space, moderately rapid heart action—particularly when standing up. On such occasions she vomited and perspired and received morphine and nitroglycerine. She was fearful about heart disease, and indeed a diagnosis of thyrotoxicosis and heart disease had been made.

Main findings: Fine tremor of fingers and tongue, and muscular weakness were noted. The palms felt quite warm on the first day, but about normal on the second day. Heart rate was 96-120, rising to 150 upon standing. B.M.R. plus 37. The rest of the examination was essentially normal.

No medication whatsoever was used. Understanding was shown. Daily heart rate and B.M.R. determinations were done, and normal figures were gradually reached within one week.

The history revealed a complicated background. The husband cares for nothing but his work, dislikes social affairs, is tongue-tied, and never talks to his wife concerning his work. The presence of members of her family in the home annoyed him.

Both husband and wife are frigid and never had sexual intercourse. He felt that, having provided for her comfort, he had done his duty. During the course of the recovery, the patient became quite suspicious; thought her husband was trying to prevent her recovery. In fact, she thought he was putting something into her food. When he offered her a chiclet her mind "worked so" that she

vomited and could not eat for two days. She also suspected her husband of going out with other women.

At no time was any medication given. Common-sense psychotherapy was used. The patient lost many of her symptoms and signs, including the tachycardia, and has regained her weight. The home situation may be considered at least fair.

This case teaches the lesson that careful histories are of paramount importance, particularly in the borderline field of anxiety, thyrotoxicosis, postural and post infectious asthenias; and also that the presence of weight loss, tremor, tachycardia, and increased metabolic rate do not necessarily mean presence of thyrotoxicosis.

CRIPPLED CHILDREN

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The campaign to round up and give treatment to the crippled children of Georgia is well under way. It is hoped that every such patient in the State will be located and given a chance to obtain the best possible result that can be secured. The Federal Social Security Act provides that funds shall be granted to the several states to assist them in extending services for the care and treatment of crippled children.

A survey of crippled children in Georgia was made to compile data to be used in the development of a program for the care of such children. Its objectives are: (1) to take a census of such children in the State; (2) to study the causes of their crippling conditions; (3) to determine the extent of medical treatment that is being afforded these children and (4) to determine the opportunities for education and vocational training provided for them. A total of 7,557 crippled children were located in the State, 5,462 white and 2,095 colored. There were 5,660 living in rural communities and 1,897 living in urban counties.

Infantile paralysis was the cause of more cripples than any other condition. Fifty-three per cent of children living in urban counties received hospital treatment. Only 27 per cent

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of children living in the remaining counties received hospital treatment. Nearly 15 per cent of the children between ten and twelve years of age received no schooling.

The work for the care of these children in Georgia was put under the Department of Public Welfare. A committee of orthopedic surgeons was appointed by the President of THE MEDICAL ASSOCIATION OF GEORGIA to act as a technical advisory committee. This committee met with the representatives of the Welfare Department and the Children's Bureau in Washington. A comprehensive plan for services for crippled children was drawn up and approved by the Children's Bureau in Washington. A resumé of this plan is as follows: Definition: A crippled child is a person between the ages of birth and twenty-one years, whose bone, joint or muscular function is so restricted as to limit its possibilities or normal development physically, socially, and economically.

Approved orthopedic surgeons of the State will make a determination through *diagnostic clinics* of the patients to receive treatment. Services will be supplied to children without regard to race, sex, or creed. Children are not acceptable for services if parents or members of the family are financially able to assume responsibility for treatment. The plan is financed jointly by the State and Federal governments.

Dr. Martin Myers, an orthopedic surgeon, was selected as supervisor of the service. He has a competent staff of assistants, including nurses, social service workers, physiotherapists and clerical workers. Their activities include (a) services for locating crippled children; (b) registration of cases, and avoidance of duplication of services; (c) diagnostic services. Clinics will be held at strategic points throughout the State. These will be under the direction of recognized orthopedic surgeons. (d) Hospitalization: A list of satisfactory hospitals has been obtained. Contracts have been signed with these hospitals and the expenses will be taken care of. At present a period of twenty-one days is allowed each patient. This can be extended if necessary. (e) Convalescent homes are being arranged. (f) Plans for foster home care will be considered. (g) Education: Georgia makes no provisions in its schools for the

special education of handicapped children. Cooperation with the State Board of Education is contemplated in order that future plans may be developed. (h) After-service in the child's home. Instructions for the after-care of cases will be sent by the surgeon to the Field Consultant. Nurses will follow up and see that instructions are carried out and the children report back for supervision or further treatment. Medical Social Service Field workers will keep in contact also.

Payment to surgeons will be made on a monthly basis. If consultation with recognized specialists is necessary, this will also be paid for.

Appliances such as braces will be supplied when ordered by the surgeon in charge.

Transportation of the children will be furnished by the family, relations or friends, if possible.

Special emergency cases can be cared for. Travel of staff is cared for on a mileage and per diem basis.

The above plan is now in operation. It will be revised from time to time as necessities arise. Several clinics have already been held and are being held weekly through the State. Cases have already been admitted to several hospitals and are now receiving treatment.

It is hoped that the physicians everywhere in the State will be on the lookout for indigent cripples and that they will get in touch with the Children's Division of the Public Welfare Department in Atlanta and see that no crippled child is neglected.

This seems to be an excellent opportunity to round up the indigent cripples of our State, and to give them adequate treatment. They can be assured that we will do all that we can to see that they all get the best possible treatment. Every effort will be made to restore them as nearly as possible to normal, and to rehabilitate them so that they may become self-reliant, so that they may cease to be a burden to those who have cared for them. No patient should be considered hopeless. They should all be examined by a competent orthopedic surgeon, who will examine them at one of the clinics. Many bed-ridden invalids and children who crawl about on all fours like an animal, may be gotten up with braces and crutches. Often, by means of suitable operations, braces can be discarded.

PERFORATED PEPTIC ULCER*

Report of 43 Cases in the Negro

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The object of this communication is: First, to present a statistical study of perforated peptic ulcer in the Negro; second, to offer evidence that in this condition peritoneal drainage is an unnecessary procedure in the absence of localized abscess formation; and third, to emphasize the efficacy of a simple and efficient type of closure of potentially infected abdominal incisions.

This study is based on a series of 43 cases of perforated ulcer treated by operation in the Emory University colored division of Grady Hospital. All of the cases were admitted over a period of three years and were treated or observed by the author.

Incidence

A comparison was made of the ratio of perforated ulcers to the total number of surgical admissions in the white and colored divisions of the hospital during the three year period. In the colored unit, there were 43 perforated peptic ulcers in 4,377 patients admitted to the surgical service, or a ratio of 1 to 100. The incidence in the white unit was only slightly less with 41 ruptured ulcers in 5,501 surgical patients, or a ratio of 0.7 to 100. By this criterion there appears to be no racial difference in the incidence of perforated ulcer. The opinion prevails, however, with the members of the surgical staff that although peptic ulcer is more prevalent in white than colored individuals, ulcers in the Negro are more likely to perforate. This theory is neither confirmed nor disproved in our study, since information could not be obtained relative to the number of perforations in proportion to the number of ulcers treated.

Only one perforation occurred in a woman. The low incidence in females is in accordance with the concept that perforating ulcers are limited almost exclusively to men and lends support to the aphorism that the diagnosis of a perforation in a woman is wrong until proved at operation.

Sixty-five per cent of the perforations were found in patients between 20 and 40 years of age and were equally distributed in the third and fourth decades of life. The ages in the entire group varied from 18 to 66 years with 37 years as the average age level, which approximates the figure given by Corff¹ as the average age in his series of 63 cases. Age limits in other reports vary from two days² to 85 years.³

The age and sex incidences in this series of 43 cases in the Negro are in agreement with the findings of other investigators and show no striking variation from similar studies in the white race.

Location of Ulcer

Thirty of the ulcers were gastric and 13 duodenal, resulting in a ratio of 2 to 1. This is a noteworthy divergence from the reports of other clinics in which the frequency of duodenal ulcer is five times greater than gastric. An exception is the report of Sallick⁴ on a series of white patients in whom there were twice as many gastric as duodenal perforations.

Forty-one of the ulcers were located on the anterior surface of the stomach or duodenum. The remaining two, occurring posteriorly, were gastric in type and both were quite large in size. It was possible to repair one of these by simple suture, but the other required a V-resection because of extensive induration. Both of these patients died.

History

Eighty-two per cent of the 43 patients presented a definite past history of ulcer. This high incidence of perforation in chronic cases does not substantiate the prevalent idea that ulcers which perforate are usually of recent development, but lends support to the more correct assumption that perforation is usually an acute exacerbation of a chronic process.

Twenty-seven patients had definite and typical ulcer symptoms in the past and 14 of these had received medical treatment for ulcer before operation. One patient was operated upon for perforated ulcer ten months previously, and at the onset of the second perforation, came immediately to the hospital announcing his diagnosis on arrival. At least to this patient, the symptoms were unmistakable. Ulcers perforated in four patients while they were on a medical regime and in

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two while receiving hospital treatment for severe gastric bleeding. The latter instances do not uphold the current maxim that bleeding ulcers do not perforate. On the other hand, none of the perforated ulcers in our series showed any evidence of bleeding. I believe that, as a rule, perforated ulcers do not bleed, but bleeding ulcers may perforate. One patient's ulcer perforated during a fluoroscopic examination following a barium meal and the opaque stomach contents were seen spreading through the peritoneal cavity.

An ulcer history not obtainable before operation was frequently elicited during convalescence. This is not surprising when one considers the intense pain and mental anguish of these patients before relief of their symptoms.

A prodromal syndrome of increasing pain and vague upper abdominal unrest of such severity as to prevent indulgence in routine activities was present in one-fourth of the patients. The occurrence of these prodromal symptoms while on an ulcer regime should be a warning of the inadequacy of the treatment and of a possible impending catastrophe.

Perforation occurred in six patients during sleep and in seven while at hard labor. This does not uphold the assumption that exertion tends to precipitate rupture. I concur with the belief of Corlette⁵ that perforation is produced by an increased intragastric pressure due to peristaltic activity of the stomach, and is not influenced by an increased intra-abdominal pressure such as might be brought about by intensive muscular exertion.

Clinical and Laboratory Findings

In general, the diagnosis of perforation was readily established since a majority of the patients presented typical signs and symptoms. There were three factors noted in the minority which made the diagnosis confusing:

1. The picture was obscured in several instances by acute alcoholism. One patient was so inebriated that he was treated by gastric lavage, the possibility of perforation not being considered as an admission diagnosis. A spillage of alcohol into the peritoneal cavity induces a quick-acting and severe chemical peritonitis, which, if not of grave prognostic import, certainly tends toward a stormy convalescence.

2. A few patients did not solicit medical attention until after generalized peritonitis had advanced so far that the etiologic factor was obscure.

3. The tendency for gastric and duodenal spillage to be directed to the right lower quadrant may result in extreme tenderness and rigidity in that region. This was exemplified in 12 patients to the extent that acute appendicitis was considered a definite possibility. The differential diagnosis between ruptured ulcer and acute appendicitis becomes difficult when the history is atypical and the tenderness in the right lower quadrant is marked. The leukocyte count is of no value in the differentiation of the two conditions. In the cases of questionable diagnosis, a small mid-right rectus incision was made at the level of the umbilicus for the purpose of opening the peritoneal cavity for inspection before enlarging the incision. In no case was there any doubt of the diagnosis upon finding intraperitoneally the characteristic, frothy fluid of gastric spillage. In these cases, the small incision was easily extended upward to permit adequate exposure. The leukocyte count varied from 2,000 to 25,000 per c.mm., and could not be correlated in any way with the extent or duration of the peritonitis present, or with the prognosis.

Only two patients were admitted with a systolic blood pressure below 100 mm. Hg., a temperature below 98 degrees Fahrenheit, and the clinical picture of shock. In eight other patients symptoms of shock were marked but their temperature and blood pressure records were surprisingly normal. True circulatory shock occurs rarely in an early perforation. When shock is present it is the result of far-advanced peritonitis and is always of grave prognostic import.

The blood pressure readings in the entire group varied from 80/60 to 300/150 mm. Hg. The pulse rate ranged from 64 to 110 per minute with an average of 88. It was observed that the pulse rate was always considerably slower than was expected from the general appearance of the patient.

Vomiting was present in two out of every three cases and, although usually spontaneous, was sometimes induced by the patient for the relief of gastric distress.

Roentgenographic examination of 17 patients was made in an attempt to find a pneumoperitoneum and in 10 of these air was demonstrated beneath the diaphragm. The absence of a pneumoperitoneum does not exclude the possibility of perforation, but when air beneath the diaphragm can be definitely demonstrated, the diagnosis of perforation can be made with certainty.⁶

The most consistent findings in the acute perforation of a peptic ulcer are: *suddenness of onset, severity of abdominal pain, and board-like rigidity of the abdomen.*

Operative Procedure

All patients were given a general anesthetic. Spinal anesthesia was rejected because of the tendency to excessive retching when the stomach is manipulated under this type of anesthesia.

The time factor in perforated ulcer is of such great importance that immediate surgery is imperative. In the treatment of perforated ulcers by operation, there are two considerations: First, to save the patient from probable impending death; and second, to relieve the patient of future recurrences. In order to save the patient's life the hazards of future catastrophes become of minor importance. Simple closure of the perforation with as little surgical manipulation as possible should be the major, if not the only, objective. Additional surgery attempting restoration of function or permanency of cure should be considered with trepidation unless the surgeon is more concerned in a permanent cure for a few than in a lowered mortality rate for the majority.⁷ The results with simple closure are more satisfactory than those in which more extensive surgery is undertaken because the operative mortality is lower, and the permanent results are equally as good.

The operative procedure was that of simple closure in all of the cases except one in which a resection was necessary because of the extensive pathologic changes present. The closures were made in the majority of cases with one or more sutures through the entire stomach wall closing the perforation and were then reinforced by a continuous serosal stitch. An omental tab was sometimes fixed over the suture lines. Catgut was the suture of choice, although seven perforations were closed with silk.

In the closure of ruptured ulcers near the pylorus, it was observed that the sutures produced what appeared to be an obstruction which would necessitate some type of relief. Nevertheless, no gastro-enterostomies or pyloroplasties were done and in no instance was there persistent pyloric obstruction.

At the time of operation the entire peritoneal cavity, including the anatomic gutters and the pelvis, was carefully and thoroughly aspirated to remove as much contaminating spillage as possible. All cases were closed without peritoneal drainage. Shipley⁸ has pointed out that "there is much clinical evidence that drains left in the peritoneal cavity are soon sealed off, and there is also abundant proof that the peritoneum is a very efficient tissue in taking care of its own difficulties." This is especially true of infections, provided the cause of the contamination is removed and the door closed to further leakage. Trout⁹ reports that in a survey of more than 100 surgeons about 80 per cent, as a rule, close the abdomen without drainage. It is concluded that except in localized abscess formation, an attempt to drain the entire peritoneal cavity is futile and invites intestinal obstruction, infection, and fistula formation. There is no doubt that gastric spillage grossly contaminates the peritoneum, but the resistance of this tissue to infection plus the mechanical impossibility of adequate drainage, has led me to place entire faith in a painstaking and thorough aspiration of the peritoneal cavity. In none of our cases has an intraperitoneal abscess developed. For these reasons peritoneal drainage is a dangerous procedure in the treatment of perforated ulcer.

The abdominal incisions in operations of this type are, from the beginning, potentially infected wounds. Postoperative infections play a large part in increasing morbidity and prolonging convalescence, and occasionally lead to an evisceration which may terminate fatally. A study was made to determine the result of various types of wound closure on the degree of infection. Superficial drains through the incision and through a stab wound near the side of the incision were tried in seven cases with indifferent results, five out of seven wounds became infected.

The results were equally as unsatisfactory in 25 cases in which layer closure of the ab-

dominal wall without drainage was tried. Nineteen cases became moderately infected and three grossly infected to the extent that secondary operative drainage became necessary.

Eleven cases were closed with a continuous peritoneal suture followed by a rather loose approximation of the wound with interrupted silkworm-gut placed about one inch apart through the skin, fascia, and muscle down to the peritoneum. No further closure was attempted. There is evidence that this method allows some immediate drainage, prevents excessive strangulation of tissue, reduces the amount of buried suture material, and permits better healing. In the eleven cases eight incisions healed by primary union, two were slightly and one moderately infected and none required secondary drainage. There were no eviscerations in this group. Observations have shown that these wounds heal clean, produce no additional scarring, and are strong, since there were no incisional hernias following this method of closure. One of the patients in this group was admitted three months later with intestinal obstruction and the original wound was found to be healed layer to layer.

The incidence of infection in this group was 27 per cent as compared to 76 per cent in the other two groups. These results indicate that the third type of closure is the method of choice.

Mortality

The gross mortality in our series was 20.9 per cent with nine deaths in 43 cases. Only five deaths were unquestionably the result of the perforation. Death in the remaining four cases were attributed to causes other than the operation per se. One patient died of pulmonary embolism on the twelfth postoperative day after having apparently recovered from the operation. This was the only case in the series in which resection was done. Two patients died of lobar pneumonia nine days after operation at the time of a pneumonia epidemic. One patient, with a blood pressure of 300/150 mm. Hg., died of uremia on the fourth day after operation with no signs of peritonitis. Excluding these cases, the corrected operative mortality is 13.1 per cent.

In general, the reports in the literature of small groups present the better mortality per-

centages and comparative figures are misleading. A compilation of statistics by Eliason and Ebeling⁷ of 5,061 perforated ulcers, reported since 1921 in this country and abroad, reveals an average operative mortality of 23.9 per cent.

A study of individual records in our series shows that in age groups under thirty, one out of 14 died, or a mortality of 7.13 per cent. In the next ten year period the mortality was two out of 13, or 15.4 per cent. In patients over forty years of age, there were five deaths out of 15, or a mortality of 33.3 per cent. From these figures, it is noted that the mortality increases in direct proportion to the advancing age.

The time interval between the rupture of the ulcer and closure by surgical intervention, or the preoperative interval, bears a definite relationship to the mortality rate. For the sake of statistical computation, the interval is divided into three periods: the first twelve hours, from twelve to twenty-four hours, and twenty-four hours or longer. There were three deaths out of 32 patients operated upon within the first twelve hours, a mortality of 9.3 per cent. In the second period, from thirteen to twenty-four hours, six ulcers were repaired with five deaths, a mortality of 83 per cent. Only four patients with a preoperative interval of more than twenty-four hours were operated upon with a resultant mortality of 25 per cent. It is of interest that one of the recovered patients in this group gave a history of having been perforated for 108 hours.

The low mortality rate in the third group of patients is not in agreement with the reports of larger series of cases in which the mortality rises in direct proportion to the length of time preceding the operation after the onset of perforation. Since the number of cases in my report is too small to permit statistically valid conclusions, I believe that in a majority of patients, the longer the interval between perforation and operation, the poorer the chances of recovery. On the other hand, the extent of the pathologic changes and the severity and duration of symptoms must be considered in correlation with the time element in order to account for the numerous recoveries in patients with a preoperative interval of long duration.

In a patient with gastric or duodenal spillage into the peritoneal cavity of less than 12 hours duration, operation with closure of the leakage and removal by aspiration of the contaminating spillage may provide an interruption of the septic process before it has caused widespread damage. Operation during the next twelve hours may be too late to prevent an overwhelming peritonitis. Patients who delay operation twenty-four hours or longer and recover fall into two groups, (1) those with mild symptoms because of small perforations, a minimum of leakage or a walling off process, and (2) those with sufficient resistance to overcome extensive pathologic changes present. There remains, however, a high percentage of patients in whom medical attention has been delayed so long that an operation does no more than hasten the fatal outcome.

It is concluded that in a patient under forty years of age, when perforation has been present for less than twelve hours, the prognosis is relatively good.

The average period of hospitalization in recovered patients was 18.4 days. It was impossible to follow these patients satisfactorily after dismissal, but it is known that none of them returned to the hospital for further treatment and I assume that the ulcers have not recurred.

Conclusions

In conclusion the salient points derived from this study of 43 cases of perforated peptic ulcer in the Negro are as follows:

1. The incidence of perforation is approximately the same in the white and colored races in this community.
2. Perforated ulcer occurs rarely in females.
3. The majority of perforations occur in the third and fourth decades of life.
4. In this series there were twice as many gastric as duodenal perforations; other clinics report a preponderance of the latter.
5. A majority of the patients presented a definite ulcer history, with an exaggeration of symptoms prior to perforation.
6. The three cardinal signs of perforated ulcer are: *suddenness of onset, severity of abdominal pain, and a board-like rigidity of the abdominal muscles.*
7. Perforated ulcer may be confused with acute appendicitis, but the diagnosis may be

made with certainty upon opening the peritoneum.

8. Simple closure offers the best chance for recovery.

9. Thorough peritoneal aspiration more than adequately replaces peritoneal drainage.

10. A technic for abdominal closure is presented which reduced the incidence of post-operative wound infection.

11. The gross mortality in this series was 20.9 per cent, and the corrected figure 13.1 per cent.

12. The mortality rate appears to be directly proportional to the age of the patient and to the time interval elapsing between perforation and operation; the older the patient the poorer are the chances of recovery; and the shorter the time interval, the better are the chances of recovery.

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TREATMENT OF PRIMARY CARCINOMA OF THE MALE URETHRA

HENRY A. R. KREUTZMANN and BEN COLLOFF, San Francisco (*Journal A. M. A.*, Jan. 15, 1938), enumerate the various types of treatment used in primary carcinoma of the male urethra and emphasize those giving the best results. This paper also includes two new cases, making a total of 145 reported to date. In reviewing the histories, it was evident that the site of origin of the growth could not be accurately determined in many instances, as the malignant process had spread beyond its original source at the time the patient was first seen. This was particularly so when the bulbous or the membranous portion of the urethra was involved. For clinical purposes they list the growths into two main groups, depending on their location. In the first group are those occurring in the anterior, or penile, portion of the urethra, and in the second are those found in the bulbomembranous, or posterior, portion. The treatment of carcinoma involving the anterior portion of the urethra which has given the greatest number of cures is partial or complete amputation of the penis. The best results obtained when the malignant process involved the posterior portion was resection of the urethra with the included growth. Inguinal adenectomy is advisable in all cases.

DIFFERENTIAL DIAGNOSIS OF THYROID DISEASE

*Indications for Medical, X-Ray
and Operative Treatment*

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The diseases of the thyroid gland are best described as the reaction of the thyroid to stimulation, as evidenced by hypertrophy and hyperplasia which if carried far enough may go on to exhaustion atrophy, but is usually followed by involution to a colloid stage. This cycle may be repeated many times and the result is goiter. The nodular goiters are thought to be due to uneven effects of the stimulation on different portions of the gland in the progress of these cyclical changes. The various types of goiter in general manifest one stage or another of the process described above.

The diseases of the thyroid will be discussed under the following classification:

- Nontoxic diffuse goiter
- Nontoxic nodular goiter
- Toxic diffuse goiter or exophthalmic goiter
- Toxic nodular goiter
- Thyroiditis
- Cancer of thyroid
- Hypothyroidism

Nontoxic Diffuse Goiter

Most American writers take the view that a deficiency of iodine in the diet is the chief factor in the etiology of simple thyroid enlargement and this outlook would appear to be well established by repeated demonstrations of prophylaxis and cure both in man and animals.

The diagnosis of adolescent goiter may be made in the presence of a diffuse thyroid enlargement usually without symptoms and occurring most frequently in girls between ages of ten and eighteen. The onset is usually insidious and grows slowly. The enlargement is bilateral and symmetrical and occasionally ceases to grow for a considerable length of time, and may even shrink.

In this state where goiter is not endemic we see a moderate number of patients with adolescent goiter and rarely do we see one that goes on to toxicity.

In view of the preventive and curative effects of iodine in patients with adolescent goiter reported by Marine and Kimball¹ I have used it in the form of one to two drops of Lugol's solution a day to five patients with adolescent goiter, but at the present time I am convinced that it has been of very little value to my patients. In every instance after a year of continuous therapy the thyroid gland has remained firm and the enlargement was practically the same.

The use of iodine is not without its dangers in adolescent goiter, as many instances of toxic manifestations have appeared during the continued administration of this drug.

In recent years considerable work has been done on the use of thyroid extract in adolescent goiter particularly by Means and Richardson² of Massachusetts General Hospital who reported definite results from its use.

A diffuse thyroid enlargement developing during pregnancy should be treated with iodine, usually a grain of iodine in some form being given once a week, the patient being kept under constant observation and supervision. The indications for surgical intervention are cosmetic, mechanical, the prevention of threatened development of toxic symptoms, and to diminish the incidence of malignancy.

In summing up the discussion of nontoxic diffuse goiter the most important aspect is the recognition of toxicity.

Nontoxic Nodular Goiter

Adenomatous goiter is a condition due to the growth of encapsulated adenomas in the thyroid gland. There may be a single adenoma, but frequently one or both lobes may be involved. Adenoma may develop in a healthy thyroid gland but adenomatous growth is usually associated with parenchymatous growth.

As has already been emphasized in discussing nontoxic diffuse goiter, the important aspect of the diagnosis is the recognition of toxicity. Usually this is not difficult but in the nervous, excitable individual it is often a question whether the nervousness is constitutional or due to hyperthyroidism. Blumgart,³ Lahey,⁴ and others have reported patients with goiter who in spite of a normal metabolism have shown clinical evidence of toxicity and in whom the relief following operation

made it clear that they had been suffering from hyperthyroidism.

Operation is the only treatment that can remove the nodular goiter.

Toxic diffuse goiter or more commonly known as exophthalmic goiter is the name given to a peculiar complex of symptoms of which the chief are enlargement of the thyroid gland, an increase in the basal metabolic rate and a decrease in weight and strength, a characteristic nervous syndrome, exophthalmos usually, and a tendency to gastro-intestinal crisis of nausea and vomiting—considerable thyroid enlargement is the rule, but there is a definite proportion of patients with exophthalmic goiter in whom the gland is not enlarged beyond normal limits and exophthalmos is not always a constant finding.

The basal metabolism test has become indispensable in the diagnosis particularly in atypical or borderline cases. The upper normal limit is usually given as $+10$, but frequently in nervous individuals tests are high and if doubtful, the reading should be made several times until a constant figure is obtained.

In the differential diagnosis patients with functional nervous disorders, particularly those who have some thyroid enlargement, present the most difficult problem. A basal metabolic rate in the neighborhood of $+20$ is not uncommon in such cases.

Patients in a stage of remission or with a preponderance of cardiac manifestations may obscure the diagnosis of toxic goiter. When the diagnosis is in doubt, a delay for further observation is risking little more than the loss of time and is preferable to a needless thyroidectomy.

As an introduction to the discussion of the treatment of hyperthyroidism, Barker⁵ in 1924 stated, "The average duration of hyperthyroidism associated with diffuse hyperplasia of the whole thyroid gland is probably two or three years, no matter how you treat it (medically, surgically, or radiologically). No one type of treatment is ideal for all cases, neither surgery, medicine, nor x-ray; all claim 75 to 80 per cent of cures, thus tacitly admitting 20 to 25 per cent of failures, and no one has as yet compiled a satisfactory review of a series of cases followed for as long as fifteen years."

The work of Kessel and Hyman⁶ is of interest in the discussion of the treatment of toxic goiter. They followed a group of fifty toxic cases, including both the diffuse and the adenomatous types, with the object of determining the spontaneous course of the disease and establishing an index for the evaluation of therapeutic procedures. Their patients were hospitalized, then given a rest period in the country. They all received some iodine. At the end of five years, their observations revealed that four were dead from thyrotoxicosis or cardiac failure attributed to it. Two died of other causes. Ten, dissatisfied with their progress, had sought treatment elsewhere. Of these one died following operation. Three were lost sight of, two while doing poorly. The remaining thirty-one, while not free of residual symptoms, had been able to resume their normal life after an average of four and one-half months' rest in hospital and elsewhere and continued it during the period of observation. Their average metabolic rate dropped from $+43$ to $+15$, and the average weight increase was 13 pounds during the five-year period.

The uncertainty of the outcome under this form of management as well as a comparison of the average result with that after operation does not recommend it, although in early cases particularly where the patient can afford the time, a rest cure may be tried.

Iodine and the employment of sedatives are the only drugs that seem to have any effect on the toxic patient but the remission that follows their use is only transient and the patient relapses. However, there are a few who can be kept relatively normal on continued iodine and sedation therapy. If the disease is moderately severe, iodine rarely brings any improvement. My experience with iodine in exophthalmic goiter has been very disappointing. However, Haines⁷ reported in a large series of cases of recurrent Graves' disease one-fourth were controlled by iodine.

There has been a great deal of emphasis placed on the danger of iodine in unoperated patients lest they be rendered iodine-fast and thus less favorable risks for surgery. However, Brooks⁸ states in the iodine-fast patients who have come under his care, has been able by withholding the medication for a month, to secure satisfactory preoperative remissions.

The following case illustrates this point: Mrs. W., aged 39, was first seen in July, 1936. She presented the classical picture of Graves' disease with exophthalmos, tremor, emotional instability, weight loss, and palpitation of heart. No thyroid enlargement was present. From a friend she had learned about iodine, and had been taking iodine 10 drops of Lugol's t.i.d. daily for over a year and for the previous six months her symptoms had steadily grown worse. At that time her B. M. R. was +46. She was taken off Lugol's for six weeks and given phenobarbital gr. $\frac{1}{4}$ every four hours. At the end of that period the Lugol's was resumed using 20 drops t.i.d. After ten days the B. M. R. had fallen to +15 and on the twelfth day a subtotal resection was done with an uncomplicated convalescence.

The latest statistical studies of x-ray therapy in thyrotoxicosis cases followed for a period of several years, such as those of Means and Holmes⁹ in the United States and Krause¹⁰ in Germany show that so-called cures result just as frequently following this type of therapy as any other. It has the following advantages over surgery: (a) The procedure is simple and acceptable by all classes of patients. (b) Ambulatory patients, who cannot or will not give up their usual activities can be treated just as well as the bedfast. The usual procedure is to give from ten to twenty treatments at three-week intervals. Mild reactions and acute crises sometimes occur during the course of x-ray treatment but roentgenologists are now beginning to give small doses of iodine during the employment of the x-ray.

The advantage of surgery over x-ray would seem to be that x-ray does not bring much relief in adenomatous cases and that there is less certainty of achieving a cure.

In conclusion I believe that subtotal resection of the gland is the treatment of choice and advise it in all but very mild or doubtful cases. The promptness of relief and greater dependability of the result achieved by the subtotal resection, and the relatively low mortality, due so much to the preoperative preparation with iodine are the reasons for the popularity that surgery enjoys.

Toxic nodular goiter usually occurs in the older age groups who have had goiter for some time previous to the development of the toxicity and are more likely to present a picture of circulatory embarrassment.

The following case will illustrate this point: Mrs. A. H., a housewife of 54, had been suffering from loss

of weight, nervousness, palpitation of heart, tachycardia and choking sensations for six months. Examination revealed a nodular goiter that had been present for twenty years, with marked hypertension and a diagnosis of hypertensive heart disease had been made. She had been treated with rest, digitalis, and sedatives. The B. M. R. was +22—a diagnosis of toxic nodular goiter was made and subtotal resection was carried out. Surgery is the treatment of choice in all patients with toxic nodular goiter.

Thyroiditis, the acute and chronic forms, are rarely seen. The infection almost of necessity arises of distant focus. The primary infection usually as a rule is evident from pneumonia, streptococci, sore throat, otitis media, or any acute infectious disease. However, there are instances where no point of bacterial entry can be found. Almost always some form of goiter is present. Following the resolution of the infection more or less sclerosis results. The chronic thyroiditis in my experience has been largely an unexpected pathologic diagnosis being clinically very difficult to differentiate from carcinoma. The course of the following case will reveal these points:

Mrs. R. came to operation after an increasing enlargement of the thyroid over a period of four months. The gland was diffusely enlarged, very hard and extremely adherent to the surrounding structures. Cancer was suspected and a complete ablation of the thyroid was done. A pathologic diagnosis by Dr. Jack Norris of Reidel's struma was made.

Cancer of the thyroid is not a rare form of malignant process. Hare and Swinton¹¹ reported from the Lahey clinic 12,946 thyroid patients in whom primary malignant disease occurred 314 times, an incidence of 2.4 per cent. In the past the outlook for the more malignant grades was considered hopeless; at present we believe that a more favorable prognosis may be given patients with the more serious forms.

The treatment of choice consists in surgical removal of all involved tissue followed by early postoperative radiation therapy.

Hypothyroidism—Spontaneous myxedema of adults is an uncommon condition but postoperative myxedema is occasionally seen by every surgeon. Probably the majority of patients who have had a subtotal resection show for a few months evidences of hypothyroidism such as dryness of the skin, puffiness of the eyes and sensitivity to cold. As the gland

THE PRESIDENT'S PAGE

GROUP HOSPITALIZATION

Perhaps there is no other subject so popular in medical circles today as that of group hospitalization, and yet when we consider the fact that one hundred thirty-nine of our Georgia counties have no hospitals, or inadequate hospital facilities, this subject becomes less interesting because to have group hospitalization there must be hospitals available to enter into such service.

Group hospitalization was started some years ago, has been successful in a measure in the large industrial centers of the country and is now available in the larger cities of many states. Groups of employed persons may buy hospital insurance for a nominal sum, payable monthly or by the year, which entitles them to hospital service for twenty-one days or more; and, in some instances, cash benefits while they are ill or incapacitated. Usually such hospital service does not include medical care.

In Georgia the act legalizing group hospitalization was approved by the General Assembly at its regular session in 1937. It appears to be a good law. THE MEDICAL ASSOCIATION OF GEORGIA had some part in the construction of the bill and aided materially in securing its enactment. Written into the act are three important sections for the protection of the public and our profession. They are:

Section 5 of the act makes it mandatory upon the sponsors of each plan to submit it for approval to the county medical society of the county in which the service is to be sold.

Section 7 of the act requires that each plan must be approved by the State Board of Health or the Medical Association of Georgia or the Georgia Hospital Association or the county medical society. This should prevent hospitals with low standards from commercializing such service.

Section 9 of the act prohibits any hospital practicing medicine in any form. There should be no encroachments upon the rights of our physicians.

County medical societies are requested to inform themselves in regard to the law governing group hospitalization in this State.



Copies of the act may be obtained from the Insurance Commissioner of the State of Georgia, The Capitol, Atlanta. In addition, each society should write to the Bureau of Medical Economics of the American Medical Association, 535 North Dearborn Street, Chicago, for information regarding the exclusion of medical services in hospital contracts.

PROGRAM FOR CRIPPLED CHILDREN

Elsewhere in this *Journal* is an article by Dr. F. G. Hodgson, chairman of the advisory committee on orthopedics to the State Welfare Department. His report outlines the program to be followed in Georgia. Detailed information in regard to the plan may be obtained by writing to the State Department of Public Welfare, Hurt Building, Atlanta. All members of the Association are requested to cooperate in rounding up crippled children who are eligible for this service.

MEMBERSHIP DUES

Dues must be paid to be in standing for the benefits of the Association, including the medical defense feature and subscription to *The Journal*. Please pay yours to your county medical society and request the secretary to notify the office of the Secretary-Treasurer at once.

MEDICAL SURVEY BLANKS

Blanks for the use of county medical societies in conducting A Study of Medical Care have been mailed to each county medical society in the State. It is important that Georgia physicians do their part in gathering information which will aid our Association and the American Medical Association in solving some of the problems now before us.

GRADY N. COKER, M.D.

THE JOURNAL

OF THE

MEDICAL ASSOCIATION OF GEORGIA

Devoted to the Welfare of the Medical Association of Georgia

478 Peachtree Street, N. E., Atlanta, Ga.

JULY, 1938

THE NEED FOR A BETTER UNDERSTANDING OF FUNCTIONAL DISORDERS

It is of very great importance to remember that the examination of the patient, to be complete, must be considered from a functional as well as an organic viewpoint. Symptoms of organic disorders, including even severe pain, may be reduplicated in the nervous-mental mechanism, a fact which should cause us to ever remember that beginning treatment is not justified until examinations reveal the sources of disturbances. The physician cannot be sure without considering the person as a whole whether the disturbance is coming from some diseased organ or whether the symptoms are neurotic or psychotic.

It is true that mal-adjustments to the problems in life in the past have caused the wasting of much good medicine and the performing of a number of operations, neither proving of more than temporary benefit to the patient, for they will not cure "nerves." Much will be accomplished when we doctors learn to look for and recognize nervous-mental symptoms which occur in most of our patients, and then frankly state to these individuals what their problems are. We must teach them how to live with and control their upsets, for they are woven into distinct patterns and, therefore, cannot be separated and removed through the use of drugs and instruments.

Above all, nervous patients need kind consideration, sympathetic understanding and guidance. If these are not furnished through physicians, they are then sought and frequently received from so-called healers who dwell on the fringe, or just outside medical borders where the poorly trained thrive among the ignorant and misunderstood. Surely this is largely our fault and the correction is our responsibility. There has been too little training for medical students and practitioners in the study of nervous-mental dis-

eases. This must be overcome through knowledge and understanding and not by calling some other practitioners of the healing art ugly names. All doctors know how to recognize neurotic patients, but too few know how to assist them to learn the practice of self-control. Family physicians see these patients at a time when most can be accomplished. It is not difficult to learn how to recognize the neuroses and psychoses. Dementia praecox (schizophrenia) sounds big, but when the family doctor learns that it means an unsocial child he knows right away that corrections often may be made through proper guidance before great damage occurs. The neuroses, as a rule, are successfully treated at home, but psychoses such as manic depressive insanity and the paranoic conditions are best treated in institutions.

Finally, the vast majority of people who become addicted to worry may be assisted by their family physicians to reach satisfactory adjustments to their disturbing problems. This procedure will keep appreciative patients who otherwise will become dissatisfied and unappreciative.

J. A. REDFEARN, M.D.

MEDICAL ASSOCIATION OF GEORGIA

Ninetieth Annual Session

May 9, 10, 11, 12, 1939

Atlanta

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1938-1939

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| O. R. Thompson | Macon | <i>Fraternal Delegates to Other State Meetings</i> | |
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| John P. Turk | Nelson | C. O. Williams, West Point. | |
| M. R. Smith | Cordele | To Visit Florida: Wm. Willis Anderson, Atlanta; | |
| <i>Industrial Relations</i> | | Chas. R. Andrews, Canton; Arthur G. Fort, Atlanta; T. C. Davison, Atlanta. | |
| C. F. Holton, Chairman | Atlanta | To Visit North Carolina: Clarence L. Ayers, Toccoa; | |
| R. L. Rhodes | Augusta | Linton Gerdine, Athens; J. A. Green, Clayton; O. | |
| T. P. Goodwyn | Atlanta | N. Harden, Cornelia. | |
| W. A. Newman | Macon | To Visit South Carolina: W. F. Reavis, Waycross; | |
| J. T. McCall | Rome | Wm. A. Mulherin, Augusta; H. J. Rosenberg, Atlanta. | |
| <i>Scientific Exhibit</i> | | To Visit Tennessee: Richard Binion, Milledgeville; | |
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| Roy A. Hill | Thomasville | | |
| T. F. Sellers | Atlanta | | |
| <i>Study of Maternal Mortality and Infant Deaths</i> | | | |
| H. F. Sharpley, Jr., Chairman | Savannah | | |
| <i>First District</i> | | | |
| A. J. Mooney | Statesboro | | |
| H. G. Lee | Millen | | |

The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.

The Southern Psychiatric Association will hold its annual convention in Atlanta, October 10 and 11, 1938. Dr. George P. Sprague, Lexington, Ky., is president; Dr. Newdigate M. Owensby, Atlanta, secretary.

WOMAN'S AUXILIARY: OFFICERS 1938-1939

President—Mrs. Warren A. Coleman, Eastman.
President-Elect—Mrs. Eustace A. Allen, 18 Col-
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PRESIDENT'S REPORT TO THE HOUSE OF DELEGATES OF THE ASSOCIATION*

MRS. RALPH H. CHANEY
Augusta

In presenting this report on the work of the Woman's Auxiliary to the Medical Association of Georgia for the fiscal year 1937-1938 an effort will be made to give you a composite picture of the work as a whole, especially in regard to our most important objective, Health Education of the laity. Today we have 25 auxiliaries representing 51 counties compared with 26 auxiliaries representing 34 counties last year. Three auxiliaries definitely ceased to function; due in two counties to insufficient members and in the other county to the loss by death of the member who had held the organization together. Our total membership is 442 today compared with 418 last year. This is a small increase and our total membership is a very small group when the total number of eligible wives are considered. The Chairman of Organization this year mailed to 630 doctors' wives, who were not members of the Auxiliary, a letter explaining our purpose and our object. Included with this was a copy of Dr. Traylor's editorial on the Woman's Auxiliary. Mrs. Coleman also attended 6 District meetings and wrote 33 additional letters in the effort to stimulate interest in advancing the organization of the Auxiliary.

From the records received from 19 of our 25 Auxiliaries reporting to date there were 64 programs of self-education on health subjects presented in the Auxiliaries themselves and more than 100 programs were sponsored or prepared for lay organizations by the Health Chairmen in these same Auxiliaries. There were 82 members of the Auxiliary who served as Health Chairmen in lay organizations. Fifteen Radio Health Talks were either given or sponsored by various Auxiliaries and in addition much publicity was given to the American Medical Association Radio Talks. Ten Public Relations meetings were conducted by the Auxiliaries. At these meetings

the Health Talks approved by the Medical Association of Georgia through the Advisory Committee were distributed by the Auxiliary to the representatives of lay organizations such as Woman's Clubs, Parent-Teacher Associations, Business and Professional Woman's Clubs, Junior Leagues, American Red Cross, Y. W. C. A.'s, church groups and to the Home Demonstration Agents for the 4-H Clubs. Some colored schools and colored woman's clubs also were furnished with material. Over 31,000 copies of these Health Talks were distributed during the year, 181 Hygeia subscriptions were obtained, 64 of which were given to schools or libraries. Two of our Auxiliaries, Bullock-Candler-Evans and Baldwin Counties were given honorable mention in the National Hygeia Contest. Three Health films were shown, one of which was shown to over 1,000 children. Fifteen of the eighteen Auxiliaries reporting participated in or cooperated with some community project related to health. Nearly all had a part in the drive for securing enlistments in the Women's Field Army for the Control of Cancer. Thirteen Auxiliaries reported the study of the legislative bills as suggested by Dr. Traylor; namely, the Basic Science bill; the bill to amend the State Constitution so as to allow the counties to appropriate funds for the care of their indigent sick; and the resolution introduced by Senator Lewis last July in the Senate of the United States.

Our Student Loan Fund is now \$1,367.00; \$204.00 was contributed this year by Auxiliaries and \$448.00 paid on loans, already made. According to a resolution passed by the Auxiliary four years ago this fund will be available to loan next year. A resolution passed by the Auxiliary last year in Macon asked that the "Members of the Medical Association of Georgia be asked to leave Memorial Scholarships, the same to be used by deserving medical students." \$13.50 was contributed to the Health Film Fund. This fund makes it possible to finance the showing of Health Films to lay groups, especially to children, by those Auxiliaries that desire them.

It is a matter of regret that there is so little financial return to report for the Bureau of Public Relations. A definite effort was made

*President's report to the House of Delegates of the Medical Association of Georgia, Augusta April 26, 1938.

in many counties and districts by the Auxiliary Presidents and District Managers to have all the doctors in their counties and districts send in subscriptions. I have no record of what may have been accomplished, except the report from Dougherty County, where Mrs. James M. Barnett did some very effective work.

In an effort to stimulate interest and further growth in the work of the Auxiliary, the President attended the meeting of the Woman's Auxiliary to the American Medical Association in Atlantic City last June. Within the State itself nine district meetings and two Public Relations meetings were attended. I have written 195 personal letters and mailed out 691 mimeographed or type-written form letters together with 500 copies of "Our Objectives." A copy of "Our Objectives" with a letter was sent to each Auxiliary member, to all State officers of the Medical Association of Georgia, to the members of the Advisory Committee, to the presidents of the State Auxiliaries that comprise the Southern Medical Auxiliary and to the officers of the Women's Auxiliary to the American Medical Association.

At a joint meeting of the Advisory Committee and the Executive Board of the Woman's Auxiliary the program on which the foregoing report is based was approved. At that meeting Mrs. James Brawner offered a membership cup to be awarded to the Auxiliary having the highest rating based on the suggested credits which were presented at the same time. With the acceptance by the Auxiliary of the cup this year it will be awarded at the 1939 meeting for the first time.

I should like to take this opportunity to thank Dr. E. D. Colvin for the article on Pre-Natal Care and to Dr. John W. Brittingham for the one on "The General of the Men of Death." Thanks and appreciation are also due Dr. T. F. Abercrombie and Dr. Joe P. Bowdoin of the State Department of Health for their help and cooperation in preparing the Health Talks for distribution. The State Department of Health mimeographed 8,000 talks without charge, the Auxiliary paying only for the material used.

I wish to express my deep appreciation to Dr. Traylor, your President; to Dr. Coker, your President-Elect; to Dr. Shanks, Secretary-Treasurer of the Association; and to Dr. Brawner, the chairman of the Advisory Committee, for their advice, help, and cooperation whenever I called upon them.

PRESIDENT'S REPORT TO AUXILIARY*

MRS. RALPH H. CHANEY
Augusta

In a review of the work of the past year I am pleased with the evidence that exists of work well done, for there is ample proof that progress has been made in all the phases of our work.

In order to avoid unnecessary repetition my report is confined to my own personal activities. The post-convention Executive Board meeting was held in Macon, at which time the delegates to the American Medical Association Auxiliary meeting in Atlantic City were appointed. The State Chairman, the Corresponding Secretary and the Parliamentarian were also appointed. Later the District Chairmen were appointed, but upon investigation and consultation with the District Managers it was found that these appointments should be made by the District Manager of the District concerned.

I attended the meeting of the Woman's Auxiliary to the American Medical Association in Atlantic City. Also the meeting of the Advisory Board and Executive Board in Milledgeville on June 30, 1937, at which time the program as outlined in "Our Objectives" which you have used as a guide the past year, was approved. At this meeting Mrs. Brawner's offer of an Auxiliary Cup together with a list of credits covering its award were approved.

Stationery was printed and mailed to all officers, chairmen and district managers. Likewise 500 copies of "Our Objectives" were printed and 500 copies of the general Auxiliary letter, 35 copies of the letter to county presidents, and 50 copies of the list of county presidents were mimeographed. After consultation with Dr. Joe P. Bowdoin of the State Department of Public Health I arranged to have 1,000 copies of 8 Health Talks mimeographed by that Department, the Auxiliary paid only for the material used. Fifteen thousand copies of "Pre-Natal Care" and 10,000 copies of "The General of the Men of Death" were printed and made available to the District Health Chairmen.

In August, I mailed the Auxiliary Letter together with a copy of "Our Objectives" to every member of the Auxiliary. In addition, a separate letter was sent to each county president together with a copy of "The Function of an Advisory Committee." Lists of all State officers and district chairmen were sent to all county presidents. Lists of all county presidents were sent to all State chairmen. Copies of "Our Objectives" together with a personal

The Woman's Auxiliary will hold its fifteenth annual convention in Atlanta, May 9-12, 1939.

*President's report to the Fourteenth Annual Convention of the Woman's Auxiliary, Augusta, April 28, 1938.

letter were sent to all the State officers of the Medical Association of Georgia, to the members of the State Advisory Committee, to the officers of the Woman's Auxiliary to the American Medical Association and to the State Presidents of the Southern Medical Auxiliary. The report annually prepared for the Southern Medical Auxiliary meeting was written personally. Short articles were prepared for the National News Letter, for the Journal of the Medical Association of Georgia and for the Atlanta Constitution.

In November a request was received from the Public Relations Bureau. It requested aid to get the physicians of the State to sign and transmit pledges to the Bureau. Following the approval of the Advisory Committee, with the aid of the Corresponding Secretary 26 letters were sent out to various officers of the Auxiliary explaining our part in this endeavor. In addition to dispatching these letters 1,000 leaflets and cards were mailed out.

A Mid-Year Message to county presidents about Auxiliary work was prepared and mailed in January. In February, 75 copies of Mrs. Brawner's offer of an Auxiliary Cup and the suggested credits whereby it might be won were mimeographed. These, together with a personal letter, were mailed to all the members of the Executive Board. During the year, 195 personal letters have been written and over 690 form letters have been mailed. In addition, over 100 postcards have been personally written.

I have attended meetings in seven of the nine organized districts, nine meetings in all. Public Relations Committee meetings were attended in two counties. Several invitations to attend various meetings had, of necessity, to be declined.

In preparation for the convention mimeographed questionnaires were prepared for all counties and districts. The corresponding secretary was requested to send the convention call with credential cards and the questionnaire to all members of the Executive Board. I prepared the program for the convention and sent copies to Dr. Shanks for the Journal of the Medical Association of Georgia and to Mrs. Rogers, the Press and Publicity Chairman, for use in the Atlanta Constitution.

Later on a request for a short article I mailed two copies of "Our Objectives" to Mrs. Fred Zumwalt, Press and Publicity Chairman for the California Medical Auxiliary to be used in a Woman's Auxiliary Supplement for the California Medical Journal.

The pre-convention Board meeting was held. It has been a great pleasure to serve as your President. I have personally gained so much that I feel I must thank each and every one of you for having honored me. I should

like to express my sincere thanks to Dr. Traylor, Dr. Coker and Dr. Brawner and to each member of my staff. Also to each one of you for your loyal support and cooperation.

DIFFERENTIAL DIAGNOSIS OF THYROID DISEASE

(Continued from Page 280)

remnants become adjusted to the ordinary demands of the body, these manifestations clear up.

However, in a few cases complaints of cold extremities, dry skin, thinning of hair, drowsiness, lassitude and irritability with B. M. R. 25 to 30 per cent below normal appear. These individuals should then be placed upon desiccated thyroid glands 6 grains a day until the metabolism is normal and then the ideal dose is just enough of the substance to keep the metabolism normal.

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MYASTHENIA GRAVIS: CONSIDERATION OF RECENT ADVANCES AND INFLUENCE OF PREGNANCY

HARRY TABACHNICK, Milwaukee (*Journal A. M. A.*, March 19, 1938), discusses the recent advances pertaining to etiology, treatment and diagnosis of myasthenia gravis. Interest in the undetermined etiologic role of the endocrines is further enhanced by the consideration of myasthenia gravis associated with pregnancy. In the case of myasthenia gravis cited myasthenic weakness had its onset after childbirth, and the myasthenic facies with exaggeration of symptoms was observed to set in during the early course of the next pregnancy. Myasthenic weakness may precede the myasthenic facies. Prostigmine is a valuable drug in both treatment and diagnosis of myasthenia gravis. It is suggested that prostigmine may be of aid in the diagnosis previous to the onset of the myasthenic facies; that is, when the malady is in what may be termed a stage of incipience. There is need for more determinate information on myasthenia gravis with pregnancy. An accumulation of data including use of the newer quantitative endocrine determination is likely to assist in clarifying the possible relationship of the endocrines to the disease.

The Sixth District Medical Society met at Sandersville on June 30. The members were guests of the Washington County Medical Society at a banquet given at the Women's Club House.

GEORGIA DEPARTMENT OF PUBLIC HEALTH

T. F. ABERCROMBIE, M.D., *Director*

PRESENT ASPECT OF TUBERCULOSIS AND TUBERCULOSIS CONTROL IN GEORGIA

Controlling tuberculosis in any community, city, state or nation is a problem demanding earnest consideration by every layman, physician, public health official and social welfare worker. The progress is always slow because of a general lack of interest in the subject on the part of individuals, the lack of knowledge about the disease as well as the lack of a clear picture of the importance that the social background plays in tuberculosis; and, above all, the lack of adequate financial aid for its control.

Georgia's Tuberculosis Problem

The tuberculosis problems of Georgia are not entirely different from those in other States. From the sociologic standpoint practically all tuberculosis is found among the people of the white and black races who are native Americans, there being only a negligible number of other races represented in this section of the United States. Among all classes of society are found those having tuberculosis who are unable to contribute to the control measures because they are poverty-stricken, ignorant or willfully non-cooperative. The ignorant, so long as they remain ignorant, are a menace to the entire population just as the willful are, who know better, but who will not cooperate in helping to prevent the spread of tuberculosis. For both of these classes it would appear that legal restrictions are desirable so that they may be properly restrained in institutions having the facilities to care for them. For the poverty-stricken, a large number of whom would cooperate if they could, adequate relief must be provided, also for their families. Patients in this group also offer a serious hindrance in the progress of tuberculosis control.

The continued stationary existence of a fairly high rate of tuberculous infection (50 per cent), as demonstrated by the use of the tuberculin test over a period of several years, fully reveals that our control of tuberculosis falls far short of its goal.

Facilities for the proper treatment of tuberculosis in Georgia are far below those in many other states and do not sufficiently approach the minimum requirement of the national standard of 2 sanatorium beds per annual death. Last year (1937) there were more than 1,500 deaths in Georgia. At the present time it is impossible to completely isolate many cooperative indigent patients because

there is only one State Tuberculosis Sanatorium. This sanatorium has a bed capacity of 334. At this time these sanatorium beds are being used exclusively for those cases which appear to be suitable for some form of lung collapse therapy. Because so few beds are available for Negroes, it is exceedingly difficult to control tuberculosis among them as isolation in their homes is usually impossible or unsatisfactory.

Many persons who have tuberculosis and who are not suitable for lung collapse treatment would gladly grasp the opportunity to take the cure at home provided their income would permit, but unfortunately, the average family income for all rural and urban families who derive their income from relief and other sources is only \$131.71 and in 86 per cent of those households there are children.

Another serious problem is the failure of persons to present themselves for examination when tuberculosis is in its beginning stage. About 78 per cent of those diagnosed in the State field x-ray clinics are found to have advanced tuberculosis. This is conclusive evidence that early tuberculosis should be sought for to greater extent among those individuals who are apparently in good health or in only slightly impaired health. It can be found among them by the family physician or through public clinics. The majority of these early cases would make easy recovery on a carefully planned and supervised regime of bed rest alone and the remaining comparatively small per cent through artificial pneumothorax or some other form of lung collapse therapy. Neither can it be stressed too strongly that many cases of advanced tuberculosis are also amenable to strict bed rest. However, to achieve these results in the home of the patient it is important that the family physician devote sufficient time in helping the patient set up a regime which could be expected to bring about recovery.

The failure to have a diagnosis made until tuberculosis is advanced complicates future treatment and adds to the tuberculosis problem because it implies that a much greater length of time will be required for the disease to become arrested. This, in turn, adds a further increased financial burden upon the public in caring for them and increases the financial cost per indigent patient. Delayed discovery of tuberculosis until it is far advanced also lessens the patient's chances to

respond to rest treatment and to the simpler forms of lung collapse measures and frequently requires that more drastic surgical procedures be performed when the surgical risk is less favorable.

Georgia's Control Program

The State Tuberculosis Sanatorium has been integrated into the tuberculosis control work in that the policy for admission to the Sanatorium is now on the basis of the need for lung compression. In this way the Sanatorium application waiting list for suitable patients has been reduced to such a point that white female patients are now being admitted with practically no delay and white men usually within two months after the application is accepted. While this new policy has been on trial at the Sanatorium only for the last six months of 1937, it appears to have merit because during this time, in spite of the fact that there are fewer beds in use, it has allowed 103 more patients to benefit from sanatorium treatment than in the preceding six months. The patients admitted were selected because of their suitability for collapse treatment. This, in turn, has lessened the patient's length of stay in the Sanatorium, and therefore, it has enabled more patients to receive such treatment. By lung collapse therapy more communicable cases were rendered non-communicable in a shorter time, lessening the spread of infection and re-infection to the persons in the homes to which they returned. It is realized that however effective lung collapse treatment may be while the patient is in the Sanatorium, the difficulty of providing adequate home care and after treatment upon discharge presents a problem which is often difficult to solve. Many of the patients discharged are in need of continuance of artificial pneumothorax refills. Fees are being furnished for indigent patients for pneumothorax refills, special x-ray pictures and other required medical services, by the Georgia Tuberculosis Association upon proper certification. The physicians performing these services in indigent cases receive a small unprofitable remuneration. At the present time there are more than 150 physicians in this State who are prepared to administer pneumothorax refills and to perform other lung compression operations. These physicians have therefore generously made these special services available to a great number of patients who otherwise could not have obtained them.

The Division of Tuberculosis Control of the State Department of Public Health maintains contact with responsible persons in each county of the State, consisting of county health officers, county public health nurses, State district tuberculosis nurses, State advisory nurses and active tuberculosis associa-

tions, who endeavor to secure for patients financial relief, medical and nursing care. These public health workers are able to obtain for a great number of patients assistances through their contacts with the family physicians, Seal Sale Committees, local tuberculosis associations, county welfare departments, and, in fact, through all agencies from which aid may be had. A serious handicap at present in establishing sick persons in bed in their homes is the fact that relief allotments to indigent families is far below minimal requirements. But, as a result of the efforts of the above named agencies, 18,690 individuals were supplied with nursing or medical service in 1937, 60,148 field visits were made by public health nurses, 428 patients were sent to sanatoriums, contacts were broken in 1,399 cases, relief was secured for 369 persons and tuberculosis cottages and sleeping porches were built for 36 individuals.

The traveling field x-ray unit has played an important role in case finding in that, in 1937, 14,847 x-ray pictures were made by which 603 new cases of tuberculosis were discovered. One hundred thirty-eight field clinics were conducted in 120 counties organized by district tuberculosis and advisory nurses, and in 33 health officer and county public health nurse counties 67 clinics were held. In addition, special clinics were conducted at the University of Georgia, State Teachers' College, State Teachers' and Agricultural College, Georgia State College for Women, Agnes Scott College, Young Harris College and Sapelo Island. Field clinics are being conducted as usual and an attempt is being made to follow-up every case of tuberculosis diagnosed in them as well as those cases reported by physicians and, in addition, in every pre-sanatorium and post-sanatorium case. This follow-up is now being carried out by 9 district tuberculosis nurses, 17 district advisory nurses, 12 county public health nurses and, in 51 counties, by 44 health commissioners under the supervision of the family physician.

On Dec. 31, 1937 the case load of the district tuberculosis and advisory nurses consisted of 4,661 positive cases, 4,514 suspects, 23,471 contacts, and 6,481 unclassified cases, making a total of 39,127 persons who were under observation and supervision.

Georgia's Deficiencies in Tuberculosis Control

There is no doubt that an adequate number of public sanatorium and institutional beds for treatment and domiciliary care of tuberculosis patients is one of our greatest requirements if we are to have satisfactory tuberculosis control. Our all too few State Sanatorium beds can meet our requirements to only a small degree. They provide limited

facilities for lung compression services only and we are forced to rely on inadequate relief and irregular charities to maintain patients in bed in their homes. No one can deny that cures can be obtained at home when the conditions are favorable, but it is also apparent that it is next to impossible to obtain a favorable environment except in comparatively few cases. It is believed that we are making the most of our facilities, but they need to be materially increased. An adequate number of sanatorium beds would permit patients to remain at the Sanatorium long enough to have their disease arrested and for them to become completely rehabilitated so they could be returned to their homes not only with disease arrested but able to indulge in some form of remunerative occupation without fear of a relapse. We must keep in mind the fact that as long as tuberculosis persists among the Negroes they are a constant menace to the entire population. Until adequate institutional care is provided for them, too, they will continue to present a serious hindrance in tuberculosis control in the South.

The general practitioner may contribute much to the control of tuberculosis in his every day practice. It is easy to overlook tuberculosis until the patient has developed symptoms of advanced disease. He should keep in mind that early tuberculosis can be found by x-ray long before prominent symptoms appear. Finding tuberculous lesions early and beginning treatment early results in early arrest, for early tuberculosis is easily curable and by curing the early case it may never become communicable, and therefore a source of infection to others is prevented from developing. Tuberculin testing contacts, and even healthy adults, as a part of his daily routine practice will assist the family physician in screening his patients and will reveal to him those who have been infected. Keeping in mind the fact that an infected patient may have tuberculosis which could be discovered by x-ray study will often lead the physician to an early diagnosis and a consequent contribution of great value in the control of this disease.

Even though there are many deficiencies in Georgia's Tuberculosis Control Program, the outlook for the future seems brighter. There is expected to be made available certain State funds from discounted railroad rentals which matched with federal grants would permit the construction of several State sanatoriums. Should this building program materialize an additional 500 or 600 sanatorium beds would become available and, although not providing as many beds as we actually need, would greatly relieve some of our most pressing present difficulties.

Conclusion

It is encouraging to know that the tuberculosis death rate in Georgia continues to make a steady decline. There was 10.34 per cent reduction in the death rate for 1937. That reduction followed closely a stimulation of early treatment, the wider use of lung collapse measures and a greater effort to provide treatment and economic relief for people in their homes. While the death rate has so materially decreased, we must not become too optimistic, because the lack of facilities for isolating the communicable cases among the ignorant, the willful and the poverty-stricken continues to be an ever present source of dissemination of the tubercle bacillus among the public. It must be remembered, too, that every infected person is a potential case of tuberculosis. This continued widespread infection and a recognition of its causes show the need for supplementing our control measures with an adequate number of sanatorium beds.

The incidence of tuberculous infection in a given locality or community may be used as a yardstick to measure the efficiency of any tuberculosis control program. If the incidence of tuberculous infection remains stationary, tuberculosis control cannot be considered satisfactory, although it is quite obvious that the quantity of infection may decrease without affecting the number or percentage of those infected. When the tuberculous infection incidence becomes reduced simultaneously with a decreasing death rate as well as with a decreasing morbidity and case-fatality rate, then we may well say we have tuberculosis under control.

H. C. SCHENCK, M.D.

J. F. BUSCH, M.D.

*Division of Tuberculosis
Control.*

NEWS ITEMS

THE STATE DEPARTMENT OF PUBLIC HEALTH conducted a tuberculosis clinic at Albany on June 13-14. The requirements for admission to the clinic were that each person must make an appointment through the Dougherty County Board of Health on the recommendation of his or her family physician.

THE COLQUITT COUNTY MEDICAL SOCIETY met at Moultrie on May 17. Dr. J. E. Lanier, Moultrie, read a paper entitled *The Management of Patients with Venereal Diseases*. The Society adopted a motion to approve the plan of group hospitalization.

THE WARE COUNTY MEDICAL SOCIETY met at the Ware Hotel, Waycross, on June 1. Dr. A. W. DeLoach and Dr. C. M. Stephens were hosts to the members at dinner. Dr. J. E. Penland read a paper on *Toxemia of Pregnancy*. Dr. H. J. Bickerstaff, Atlanta, State Department of Public Health, showed a moving picture entitled *Treatment for Asphyxia in Newborn Infants*.

A CANCER CLINIC was conducted at the Georgia Baptist Hospital, Atlanta, June 3, by Dr. Max Cutler of Athens, Ga., and Chicago, Ill. The State Department of Public Health in making the announcement stated that especial efforts would be made to make the clinic instructive.

THE FLORIDA SECTION of the Southeastern Surgical Congress will meet at the Florida State Hospital, Chattahoochee, Fla., August 27. Dr. Gerry R. Holden, Jacksonville, writes as follows: "This year we want to extend a general invitation to all members of the Medical Association of Georgia, and we want to include all Georgians living within a 50 or 75 mile radius of Chattahoochee in our especial invitation."

THE MACON MEDICAL SOCIETY of Bibb County met at Recreation Park, Macon, June 7. Barbecue dinner was served. Each member had the privilege of inviting one guest.

DR. ROY W. MCGEE, Ben Hill, has been elected Fulton County Commissioner of Health.

THE NEW YORK POLYCLINIC MEDICAL SCHOOL AND HOSPITAL, New York City, announces the appointment of the following to its faculty: Dr. Joseph F. McCarthy, professor of urology and attending urologist; Dr. Charles J. Imperatori, professor of otolaryngology and attending otolaryngologist; Dr. Joseph E. J. King, professor of neurosurgery and attending neurosurgeon; Dr. Edward H. Dennon, professor of obstetrics and attending obstetrician.

DR. W. C. MILES, Griffin, has been elected president of the staff of the Strickland and Son Memorial Hospital, Griffin; Dr. T. I. Hawkins, vice-president; Dr. Geo. L. Walker, secretary; *Executive Committee*, Dr. Kenneth S. Hunt, chairman, Dr. T. I. Hawkins, Dr. A. H. Frye; *Credentials Committee*, Dr. T. I. Hawkins, chairman, Dr. D. A. Forrer, Dr. A. H. Frye; *Records Committee*, Dr. Geo. L. Walker, chairman, Dr. H. J. Copeland, Dr. T. G. Smaha; *Program Committee*, Dr. H. J. Copeland, chairman, Dr. Geo. L. Walker, Dr. T. G. Smaha. The active medical staff includes: Dr. H. J. Copeland, Dr. D. A. Forrer, Dr. A. H. Frye, Dr. Chas. F. Griffith, Dr. T. I. Hawkins, Dr. Kenneth S. Hunt, Dr. W. C. Miles, Dr. T. G. Smaha, and Dr. Geo. L. Walker. The courtesy medical staff includes: Dr. R. V. Brandon, McDonough; Dr. Marvin M. Head, Zebulon; Dr. J. H. Jackson, Barnesville; Dr. D. W. Pritchett, Barnesville; Dr. S. B. Traylor, Barnesville; Dr. J. M. Tribble, Senoia; Dr. R. L. Tye, McDonough.

DR. LOREE FLORENCE, Athens, after conducting a tuberculosis clinic at the City Hall in Athens, submitted a report to the Clarke County Tuberculosis Association on June 1. The report showed that 136 tuberculin tests had been given contacts, x-ray pictures were made for 153 by the State Department of Public Health's Healthmobile and at Fairhaven Tuberculosis Sanatorium.

THE COLEMAN SANATORIUM, Eastman, sponsored an operative thyroid clinic at the Sanatorium on June 15.

THE GEORGIA MEDICAL SOCIETY, Savannah, met on June 14. Dr. Robert Drane read a paper entitled *Concerning Intestinal Obstruction*, discussed by Dr. M. J. Egan. Dr. C. F. Holton reported a case *Endometriosis*, discussed by Dr. H. F. Sharpley, Jr., and Dr. M. J. Egan.

DR. WILLIS P. JORDAN, Columbus, spoke before a meeting of the Columbus Kiwanis Club on May 31 at the Ralston hotel.

THE LITTLE-GRIFFIN-OWENS-SAUNDERS HOSPITAL, Valdosta, held its regular quarterly clinic at the Hospital on June 10. The program consisted of titles of clinics as follows: *Fixation of Neck of Femur with Smith-Peterson Nail*, by Dr. Arthur G. Little, Valdosta; *Medullary Bone Graft of Elbow*, Dr. B. G. Owens, Valdosta; *Summer Diarrhoeas. Demonstration of Cases*, Dr. A. M. Johnson, Valdosta; *Electrocardiographic Studies*, Dr. F. G. Eldridge, Valdosta. Buffet dinner was served. Physicians from other cities who attended the clinics were: Dr. J. E. Penland, Dr. Lovick W. Pierce and Dr. W. F. Reavis, all of Waycross; Dr. J. R. McMichael, Quitman; Dr. Rudolph Bell, Thomasville; Dr. Louis Smith, Lakeland; Dr. H. W. Clements, Adel.

DR. JACK C. NORRIS, Atlanta, spoke before a joint meeting of the American Association of Medical Milk Commissions and the Certified Milk Producers' Association of America in San Francisco, California, June 13.

THE STATE BOARD OF MEDICAL EXAMINERS held its annual examinations in Atlanta and Augusta on June 14. The examinations in Atlanta were held at the State Capitol and in charge of Dr. D. T. Rankin, Alto; Dr. R. F. Wheat, Bainbridge; Dr. Leo Smith, Waycross; and Dr. G. T. Lyons, Atlanta. The examinations in Augusta were supervised by Dr. Harold F. McDonald, Dr. Harold F. McDuffie, and Dr. Claude Griffin, all of Atlanta.

DR. JOHN L. DOROUGH, formerly of Monroe, has been appointed medical director of the C. C. Camp at Forest Hills, N. C., and moved to the later location.

THE HABERSHAM COUNTY MEDICAL SOCIETY held its regular meeting in June at the home of Dr. and Mrs. T. H. Brabson, Cornelia. The next meeting will be at Fern Springs.

Retiring physician after many years' practice wants doctor to take over office and practice. If interested, write Secretary-Treasurer of the Medical Association of Georgia.

The Census Bureau, Washington, D. C., reports that the rate of infant mortality in 1937 was the lowest in history. New Jersey had the lowest rate of any state and Rochester, N. Y., the lowest of any city in the United States.

The New York Polyclinic Medical School and Hospital, New York City, announces the opening of a special Department of Facial Palsy for teaching purposes with clinics on every Thursday at two o'clock. Dr. Thomas G. Tickle and his staff have charge of the Department.

OBITUARY

Dr. Charles Hugh Wilcox, Fitzgerald; member; Atlanta College of Physicians and Surgeons, Atlanta, 1901; aged 63; died suddenly of heart disease at his home on May 18, 1938. He was born in Irwin county, now a part of Ben Hill county. He began the practice of medicine at Irwinville. Dr. Wilcox had many warm personal friends and was devoted to his family. He was city health officer at the time of his death, member of the Ben Hill County Medical Society, Masons, and the Central Methodist church. Surviving him are his widow, one daughter, Miss Frances Wilcox; four sons, Floyd Wilcox, Moultrie; Charles, Marcus and Dr. W. D. Wilcox, all of Fitzgerald. Rev. B. A. Pafford and Rev. James E. Singleton officiated at services conducted from the Central Methodist church. Members of the Ben Hill County Medical Society were honorary pallbearers. Interment was in the city cemetery.

Dr. Robert Bayard Lamb, Demorest; member; Atlanta College of Physicians and Surgeons, Atlanta, 1906; aged 59; died at his home on June 5, 1938. He was a native of Massachusetts and removed with his family to Demorest when 18 years of age. Dr. Lamb received his collegiate education at Piedmont College. He served in the medical corps of the United States Army during the World War and then resumed his practice in Habersham county. Dr. Lamb held many positions of trust and served at times as trustee of the Piedmont College, Demorest Public Schools; member of American Legion, Odd Fellows, Masons, Habersham County Medical Society and the Congregational church. Funeral services were conducted by Rev. C. L. Percy at the Congregational church. Interment was in the Demorest cemetery. Members of the Habersham and Stephens Counties Medical Societies were honorary pallbearers.

DR. ROBERT BAYARD LAMB

On June 5, 1938, the silent reaper took from our midst our beloved brother and friend, Dr. Robert Bayard Lamb. In the passing of Dr. Lamb, Habersham County Medical Society loses one of its most beloved members, and the county loses one of its most useful citizens.

Dr. Lamb was born at Colrain, Mass., July 11, 1879, came to Georgia when he was 18 years old, was educated at Piedmont College, received an A.B. degree. Graduated from Emory Medical College 1906 and has practiced medicine in Habersham County since that time, except for his service in the medical corps of the United States Army during the World War.

He was a member of the Congregational Church of Demorest, Georgia; American Legion; Board of Trustees of Piedmont College; also a member of the District public school of Demorest, member of the State Medical Society, and held various offices in the County Medical Society. He was a Mason and an Odd Fellow.

To know Dr. Lamb was to love him, and to have the highest respect for him as a doctor and a citizen, for he was a man of noble character, high ideals, and loving disposition. He was a friend to man, a kind husband and father.

WHEREAS, The Father of all has seen fit to call our friend and brother, Dr. Lamb, from our midst, the Habersham County Medical Society wishes to honor his memory by the following resolutions:

1. That our Medical Society has lost one of its most faithful members. He was always ready to aid in any call of our profession.

2. That our Society most sincerely regrets the loss of our friend and brother physician, but we bow in submission to Him who doeth all things well.

3. That a copy of these resolutions be spread upon the minutes of the Habersham County Medical Society, that a copy be sent to his family, and the same be published in the State Medical Journal.

4. That we extend to the family our most heartfelt sympathy.

Habersham County Medical Society,
O. N. HARDEN, M.D.
J. B. JACKSON, M.D.
D. H. GARRISON, M.D.
Committee.

RESOLUTIONS ON THE DEATH OF
DOCTOR JAMES WILLIAM ROBERTS

Again our ranks have been weakened by the passing of Doctor James William Roberts, whose death occurred at Emory University Hospital on May 4, 1938. Much time must elapse before the pleasant memories of his association will be forgotten by those who were so fortunate as to have known him intimately. It is a distinct loss that one of his ability and joy in serving in his chosen field should have been called at such an early age.

He was born in Elberton, Georgia, February 9, 1886. He was one of four sons of a distinguished family of Georgia, his father, James William Roberts, having been a Methodist minister and his mother, the former Miss Clifford Stewart of Oxford, Georgia. His father was at one time President of Wesleyan Female College and served as pastor of the Trinity Methodist Church of Atlanta. One of his brothers, Dr. Stewart R. Roberts, is professor of clinical medicine at Emory University and one of our most distinguished physicians.

He received his early education in the public schools of Macon, Ga., was graduated from Emory College, Oxford, Georgia, in 1909. He continued his education, graduated from The Atlanta College of Physicians and Surgeons in 1913. Preparatory to beginning the private practice of medicine, he served an internship at Grady Hospital and the Atlanta Hospital after which he took post-graduate work at Barnes Hospital in St. Louis and Mayo Clinic in Rochester. It was here that he had an opportunity to become more proficient in his specialty where he worked with the Mayo Brothers, assisted them at a time when their successful surgery won for them international fame. Dr. Roberts took advantage of this opportunity which only served to further improve his own talent and dexterity. He returned to Atlanta and began the private practice of medicine in 1915. He did general practice and some general surgery until about twelve years ago when he limited his practice to surgery.

He possessed extraordinary proficiency in the practice of his art, which he executed with confidence in his skill. He was unassuming, not prone to speak of his success in his work and only his closest friends knew just how thoroughly capable he was. While a capable and busy doctor, he had the happy faculty of being able to lay aside the cares of his practice and enjoy the companionship of his friends.

Perhaps the most outstanding characteristic of Will Roberts which will be remembered by his colleagues was his genial and jovial nature. He was a loyal friend, never tiring of the company of those he enjoyed, willing to do them any favor. A commanding personality, a friendly, warm and affectionate nature—these were the traits of Will Roberts, which endeared him to his patients and friends. He had a wide and influential circle of friends who valued him for these traits as well as his professional attainments.

He had practiced only a couple of years when he answered his country's call to arms. He served as Captain in the Medical Corps with the Emory Unit, having been stationed at various hospitals in France from 1917 to 1919. Those who served with him say he was a good soldier.

He was a handsome man of large stature, enjoying vigorous health until an automobile accident four years ago which incapacitated him for almost six months. He recovered from this and enjoyed good health until three weeks before his death. Because of his strong body and his succumbing at an early age to the ravages of disease, we as medical doctors, are once again impressed with the suddenness and swiftness of disease. Our grief and shock over the sudden passing of one so apparently strong, should serve to inspire us to work harder each day to relieve the sufferings of humanity and to continue our search more diligently against diseases which may beset any of us.

He was a member of the Fulton County Medical Society, having joined in 1913; the Medical Association of Georgia, the American College of Surgeons, and a past associate professor of surgery at Emory University.

He was a member of the Phi Chi and Kappa Alpha medical fraternities. He was a member of the Methodist church.

In 1915 he was married to Miss Maude Gullledge of Wadesboro, North Carolina, who survives him. He is also survived by three brothers and one sister.

WHEREAS, Atlanta has lost one of her best doctors and a good citizen, and

WHEREAS, Fulton County Medical Society has lost a strong supporter of organized medicine and one of its beloved and respected members, and

WHEREAS, Many of us have lost a dear and valued friend,

BE IT RESOLVED: That we extend to his family our sincere sympathy in our mutual loss and that a copy of these resolutions be spread upon the minutes of this Society, a copy be sent to his family and a copy furnished to the Medical Association of Georgia.

SPENCER A. KIRKLAND, M.D.

EDGAR D. SHANKS, M.D.

HERSCHEL C. CRAWFORD, M.D.

Chairman, Committee.

CHATTAHOOCHEE VALLEY MEDICAL ASSOCIATION MEETING, JULY 12-14, 1938

According to Dr. James J. Clark, President of the Chattahoochee Valley Medical Association, the thirty-eighth annual meeting of the body will take place at Radium Springs, Albany, Georgia, beginning at 2:00 P. M., Tuesday, July 12th and terminating at 1:00 P. M., Thursday, July 14th. An unusually fine scientific program has been arranged including papers by the leading members of the medical profession of the three states included in the territory of the organization, Alabama, Florida and Georgia. The W. J. Love Memorial Address will be delivered by Dr. J. G. Lyster, of Jacksonville, Florida, whose subject is "Pre-Frontal Lobotomy." There will be a night session during the meeting and one evening given over to a banquet and dance. For the first time in the history of the Association a golf tournament is included on the program. Dr. Frank K. Boland, of Atlanta, is Secretary of the Association.

ASSEMBLY OF LABORATORY DIRECTORS AND SEROLOGISTS, HOT SPRINGS NATIONAL PARK, ARKANSAS, OCTOBER 21-22, 1938

The intensive campaign to stop the spread of syphilis now being waged throughout the country makes it imperative that only those serologic tests of proved efficiency be made available to private physicians and health officers. Diagnosis of syphilis must be prompt and accurate. The serologic blood test, becoming positive within two or three weeks after the onset of primary syphilis and remaining positive in the vast majority of untreated patients throughout the entire course of the disease, is the most important evidence of the existence of syphilis.

The American Society of Clinical Pathologists in cooperation with the U. S. Public Health Service realized the need for reliable serodiagnostic tests several years ago. The work of the Committee on Evaluation of Serodiagnostic Tests for Syphilis is sufficiently well known to require no comment. It is the opinion of this Committee that its studies of the efficiency of the performance of serologic tests have progressed to a point where material gains would be made by a thorough discussion on common ground in which all those interested in the control of syphilis through laboratory methods may participate.

Plans are being developed for an assembly of laboratory workers from the entire country. All such workers both from private, hospital and public health laboratories, as well as physicians and health officers interested in the control of syphilis, are invited to attend.

The proposed meeting, under the auspices of the Committee on Evaluation of Serodiagnostic Tests for Syphilis, with Surgeon General Thomas Parran, Chairman, is scheduled for October 21st and 22nd, 1938, at Hot Springs National Park, Arkansas.

The aims and purposes of the assembly will be to consider means and methods to improve and to make more generally available the serologic tests, which are so important in syphilis control work. Tentative arrangements call for the presentation of the program in four sections.

The first section will consider the need for adherence to conventional technic in the routine performance of reliable serodiagnostic tests. This subject will be considered in papers by Doctors Harry Eagle, William A. Hinton, Reuben Kahn, Benjamin Kline, and John H. Kolmer, with special reference to the tests which each of these workers has described.

Need for training of laboratory personnel will be the subject of the second section. The qualifications and training for both laboratory directors and technicians will be presented in separate papers.

The third section will discuss the prosecution of the studies to evaluate the performance of serologic tests within the states. The efficiency of branch State laboratories and of municipal, hospital and private laboratories cannot be studied on a national basis. The subject is much too large. Should this be made a function of the state or large municipal department of health? Actual experience with such studies in the states of Maryland and New Jersey and in the City of Cleveland will be described.

The fourth section will consider the desirability of licensing or approving for the performance of serodiagnostic tests for syphilis, laboratories within the states by the respective state departments of health. This discussion will be conducted from the standpoint of the private laboratory director by Doctor Frederick H. Lamb of Davenport, Iowa. The health officer's side will be presented by Doctor A. Wadsworth, State Department of Health, Albany, New York.

A separate committee will draft recommendations for each of the four sections for presentation to the assembly. The respective chairmen of these four section meetings will be Doctors Walter M. Simpson, Dayton, Ohio, Arthur H. Sanford, Rochester, Minnesota, F. E. Senear, Chicago, Illinois, and H. H. Hazen, Washington, D. C. General discussion will follow the presentation of each set of recommendations.

An additional feature of the meeting will be an actual demonstration of the performance of the Eagle, Hinton, Kahn, Kline, and Kolmer tests by the originators of these procedures.

It is to be hoped that the attendance at this assembly will be large. Out of the meeting should come a crystallization of opinion with regard to the important problems which will be considered. Those interested in obtaining further information should write to the Surgeon General, U. S. Public Health Service, Washington, D. C.

BOOK REVIEWS

Hemorrhoids, by Marion C. Pruitt, M.D., L.R.C.P., S. (Ed.), F.R.C.S., President, American Proctologic Society; Associate in Surgery, Emory University School of Medicine; Proctologist, Grady Hospital, Crawford W. Long Memorial Hospital, Georgia Baptist Hospital, and Atlanta Antituberculosis Association; formerly Resident Surgeon, Westminster Hospital, London, England; Lieutenant, Temporary and Honorary Commission, R.A.M.C., Major, U.S.M.C. 170 pages, with 73 illustrations, including 7 in color. Price \$4.00. St. Louis: The C. V. Mosby Company, 1938.

One of the most interesting things a doctor can do is to recognize a very rare condition, to prove his diagnosis and, if cure is impossible, to follow the case through to autopsy and to report the details together with a review of the few similar cases already written up in the literature. Fascinating though such curiosities prove, it is certainly not less praiseworthy in our attempts to relieve human suffering to attack the common ailments which cause so much misery even though they rarely kill.

Few common conditions are responsible for more suffering, few are more amenable to expert treatment than are piles. A monograph on piles then that sets forth clearly the various methods of treating piles will prove of value to the large majority of practitioners. Such a volume has been prepared by a member of the Medical Association of Georgia, Marion C. Pruitt.

Dr. Pruitt describes the embryology, surgical anatomy and physiology of the anorectal region. His chapter on the differential diagnosis of piles is a classic. He then takes up the various modes of therapy. Having been a pioneer in the injection method of treatment he is naturally partial to it. However, he is quite fair on this subject; he explains that the injection method is not applicable to all cases, and even when it is applicable, it requires a number of office treatments, and it offers only about an 85 per cent chance of permanent cure. The great advantages, of course, are that it requires no hospitalization or loss of time, and it entails a minimum of discomfort. He describes the various operative procedures in great detail: he leaves nothing to the imagination.

One cannot leave a discussion of this book without a comment on the illustrations. It includes many good original photographs (in passing, Dr. Pruitt has made himself a swell photographer), and many original drawings, a number from life. Even the pictures that have been borrowed from the standard texts have been redrawn for the sake of uniformity. The seven color plates are superb. The Chinese have a saying to the effect that one good picture is worth many pages of text; all of these many illustrations are good, so this little volume should be worth an encyclopedia.

—L. M. B.

New and Nonofficial Remedies, 1938. Containing descriptions of the Articles Which Stand Accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1938. Cloth. Price, \$1.50. Pp. LXVI. Chicago: American Medical Association, 1938.

In this book the Council on Pharmacy and Chemistry lists and describes the medicinal preparations that it has found acceptable for general use by the medical profession. A glance at the list of the Council members and the long list of consultants appearing in the first part of the book gives ample warrant for the authority of the Council's selections.

New substances described in this volume are Sulfanilamide and Protamine Zinc Insulin, with the accepted brands. The proved value of these new additions to the physician's armamentarium bids fair to make the past year a milestone in therapeutic progress.

The Council is to be congratulated on the promptness with which it evaluated these drugs and established standards for their adequate control. From the first the Council warned against using Sulfanilamide in untried combinations. The sad tragedy of the deaths from the rashly introduced Elixir of Sulfanilamide-Massengill starkly emphasizes the value of such a body as the Council to the medical profession and the pharmaceutical manufacturers as well as to the public. Of course this potential value cannot become effective as long as those concerned refuse to follow the Council in the use of new remedies.

Other noteworthy new drugs which appear in New and Nonofficial Remedies 1938 are Avertin with Amylene Hydrate, Vinethene, Pontocaine Hydrochloride, basal, general and local anesthetics respectively; Novatropine and Syntropan, synthetic mydriatics.

Physicians who wish to know why a given proprietary is not described in New and Nonofficial Remedies will find the "Bibliographical Index to Proprietary and Unofficial Articles Not Included in N.N.R." of much value. In this section (in the back of the book) are given references to published articles dealing with preparations that have not been accepted. These include references to the Reports of the Council, to Reports of the A.M.A. Chemical Laboratory and to articles that have appeared in *The Journal*.

Annual Reprint of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1937, with the Comments That Have Appeared in The Journal. Cloth. Price, \$1.00. Pp. 201. Chicago: American Medical Association.

This book is a great deal more than a mere record of the negative actions of the Council on Pharmacy and Chemistry. It gives in full the reasons for the Council's rejection of various preparations, but it also records results of the Council's investigations of new medicinal agents not yet out of the experimental stage, and frequently contains reports on general questions concerned with the advance of rational drug therapy. All three categories of reports are represented in the present volume.

This issue of the Reports is remarkable for the series of valuable status and preliminary reports published by the Council in the past year. These include the reports on Avertin with Amylene Hydrate (now accepted for New and Nonofficial Remedies), Benzedrine Sulfate (the active constituent of the notorious "pep" pills but a promising drug when its limitations are recognized), Catgut Sutures (a survey of the sterility of the market supply), Evipal Soluble (a comprehensive review of the evidence for the usefulness and limitations of the drug), Histidine Hydrochloride (a study of the usefulness of the drug in peptic ulcer, to be considered in connection with the report rejecting Larostidin, a proprietary brand, for unwarranted and exaggerated claims), Mandelic Acid (an authoritative statement of the limitations of this drug which the Council has now accepted), and Vinethene (a careful study of the evidence for the drug, which the Council has accepted for

one year as an anesthetic to be used in short procedures).

Other notable reports of outright rejection of products are those on Causalin (Causyth), an unsafe and dangerous preparation proposed for use in arthritis; Glutamic Acid Hydrochloride-Calco, proposed as a conveyor of hydrochloric acid, with unsubstantiated claims of clinical effectiveness; Larodon "Roche," proposed as a substitute for other well established analgesic and antipyretic drugs and marketed with exaggerated and unwarranted claims.

Two reports on Sulfanilamide appear, a nomenclature and status report together with reprints of *The Journal* editorials giving the warnings which, if obeyed, would have avoided the series of deaths which resulted from the marketing of the ill-fated Elixir of Sulfanilamide-Massengill.

At the end of this volume appears an eulogy of George Henry Simmons whose death deprived the Council on Pharmacy and Chemistry of its founder and American medicine of a worthy and faithful servant.

The International College of Surgeons will hold its second national assembly in Philadelphia, Pa., October 13-14, 1938. Bellevue Stratford Hotel will be headquarters.

RETIRING PHYSICIAN

After many years' practice, wants doctor to take over office and practice. If interested, write Secretary-Treasurer of the Association.



THE DOCTOR NOW IN A PERMANENT HOME SCULPTICOLOR OF FILDES' MASTERPIECE GOES TO THE ROSENWALD MUSEUM

The \$150,000 reproduction of the Sir Luke Fildes masterpiece "The Doctor" first shown by the Petrolagar Laboratories at Chicago's Century of Progress Exposition in 1933, was recently presented by its owners to the new Rosenwald Museum of Science and Industry in that city.

Following the two World's Fairs, "The Doctor" Exhibit went on a tour of 50,000 miles and was viewed by over five million people in 18 principal cities throughout the country.

Designed to remind the public of the importance of the family physician, it required the full time of the

late Chicago sculptor, John Paulding and the noted artist Rudolph Ingerle and a large corps of assistants, and took nearly a year to complete.

In its new location in the Rosenwald Museum it will be seen by millions of visitors annually.

SUMMER DIARRHEA IN BABIES

Casac (calcium caseinate), which is almost wholly a combination of protein and calcium, offers a quickly effective method of treating all types of diarrhea, both in bottle-fed and breast-fed infants. For the former, the carbohydrate is temporarily omitted from the 24-hour formula and replaced with 8 level tablespoonfuls of Casac. Within a day or two the diarrhea will usually be arrested, and carbohydrate in the form of Dextrin-Maltose may safely be added to the formula and the Casac gradually eliminated. Three to six teaspoonfuls of a thin paste of Casac and water, given before each nursing, is well indicated for loose stools in breast-fed babies. Please send for samples to Mead Johnson & Company, Evansville, Indiana.

DR. E. C. BROWN

Eugene Crawford Brown, son of John Green and Cora Rutherford Brown, was born in Grovania, Houston County, Georgia, on October 23, 1878. He received his early education at Gordon Military Institute, at Barnesville, Georgia, and entered the Atlanta College of Physicians and Surgeons in 1897, from which college he was graduated in 1900 at the age of 21. He pursued the study of medicine at the Post Graduate Medical School and Hospital in New York City, and located for the practice of medicine in Hawkinsville in 1902.

On May 11, 1904, he married Louise Boyer, daughter of Mariabeau H. and Anna Vivian Skrine Boyer, formerly of Sandersville, Ga. To this union were born two sons: Eugene Crawford, Jr., on September 10, 1912, and Benjamin Skrine, on June 26, 1937.

Well equipped for service in his chosen profession, Dr. Brown has been a diligent student of the new and scientific methods in medical science. His skill as a physician has been greatly appreciated by the people, who have given him a large practice. His influence as a citizen is shown in the fact that he has been chairman of the Hawkinsville Board of Health for 34 years, chairman of the Board of Education, and Alderman of the city, and was a charter member of the Hawkinsville Country Club.

Dr. Brown is regarded by his fellow citizens as a man of rugged honesty. He believes in the ultimate triumph of the right in all matters, and regularly worships at the Methodist Church, of which he has been a member since 1903. He has been a member of the board of stewards for twenty-nine years, and is very loyal in his service to his church.

—Dispatch and News, Hawkinsville, Ga., June 16, 1938.

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HYSTERECTOMY*

Discussion of Cases

W. G. ELLIOTT, M.D.

J. C. PATTERSON, M.D.

T. SCHLEY GATEWOOD, M.D.

Cuthbert

This represents an analysis of the hysterectomies done at the Patterson Hospital during the past ten years.

There were 80 white and 107 negro patients.

The average length of hospitalization was 14.3 days.

Classifications:

I. Operations:

Types of Hysterectomy

| | Number of Cases | Per Cent | Deaths | Per Cent |
|-----------------------|-----------------------|-------------|--------|-------------|
| Supravaginals | 155 | 82.8 | 1 | 0.66 |
| F. W. Lynch | | | | |
| Complete Abdominals | 20 | 10.7 | 2 | 10.00 |
| Richardson (Modified) | | | | |
| Vaginals | 12 | 6.5 | 0 | 0.00 |
| Mayo (Modified) | | | | |
| Total | 187 | 100.0 | 3 | 1.60 |

II. Presenting Symptoms:

| Symptom | Number of Cases | Per Cent |
|---------------|-----------------------|-------------|
| Pain | 84 | 44.9 |
| Tumor | 41 | 21.9 |
| Bleeding | 38 | 20.3 |
| Prolapse | 14 | 7.4 |
| Discharge | 7 | 3.7 |
| Miscellaneous | 3 | 1.6 |

III. Diagnosis with Pathogenic Findings:

| | |
|--------------------------------------|-----|
| Fibroids (67.4% Negroes) | 138 |
| Prolapses | 12 |
| Pelvic Inflammatory Disease with | |
| Infected Uteri | 9 |
| Cervicitis with Malignancy Suspected | 6 |
| Panmetritis | 4 |
| Endometritis | 3 |

| | |
|--------------------------------|---|
| Fibrosis Uteri | 3 |
| Suspected Malignancy of Fundus | 2 |
| Ovarian Cyst | 2 |
| Hyperplasia | 2 |
| Tuberculosis | 1 |
| Bicornate Uterine Pregnancy | 1 |
| Chorioepithelioma | 1 |
| Adenocarcinoma of Fundus | 1 |
| Myosarcoma of Fundus | 1 |
| Carcinoma of Cervix | 1 |

IV. Age Groups—The ages ranged from 16 to 70 years.

| Age | Cases |
|-------|-------|
| 20-29 | 32 |
| 30-39 | 85 |
| 40-49 | 47 |
| 50-59 | 14 |
| 60-69 | 7 |

1 Case 16 years 1 Case 70 years

Besides hysterectomy, 170 patients had ad-

ditional operations, consisting mainly of appendectomies, salpingectomies, oophorectomies, perineorrhaphies, cauterizations, etc.

Where the cervix was badly diseased, we have done the complete hysterectomy; where mildly diseased, we have contented ourselves with doing supravaginal hysterectomy and cauterizing the cervix. Since the occurrence of carcinoma in the remaining stump is probably less than 1 per cent we believe that it is much safer to do the supravaginal operation, unless there is great suspicion of carcinomatous change, in which instance it probably would be better to use radium and x-ray.

Anesthesia

We believe that spinal anesthesia, unless contraindicated, is ideal for this type of opera-

*Read before the Medical Association of Georgia, Augusta, April 27, 1938.

tion. In 116 of these cases the operation was done under spinal anesthesia; in 8 cases it was necessary to supplement the spinal with ether; in 63 cases ether alone or in combination with nitrous oxide was employed. There were no deaths when spinal anesthesia alone was used.

Morbidity

Our morbidity in the entire series was 28 per cent figuring from 101 degrees as a basis. It was 40 per cent in complete abdominals, 27 per cent in supravaginals, and 25 per cent in vaginals. These figures are logical in that it is reasonable to think that pulling the cervix through the abdomen causes a greater incidence of infection.

Mortality

Theoretically, there should be no mortality from these operations; however, there were three deaths in this series, making the mortality 1.60 per cent. Two of these were complete abdominal hysterectomies and one a supravaginal hysterectomy. In the first case supravaginal hysterectomy only had been planned so the vagina had not been properly prepared; the low position of the tumor, however, necessitated a complete hysterectomy, and infection followed, resulting in death from general peritonitis. It is needless to say that after this unfortunate occurrence, regardless of the type of operation planned, the vagina has always been prepared. The second death was due to a very tightly wedged fibroid, involving the cervix; it was impossible to deliver the fibroid and to catch the bleeding vessels. When the tumor was finally removed and the bleeding stopped, the patient had lost so much blood that she died from shock within a few hours. The third death was that of a woman 65 years of age, poor condition, who had a tumor with many adhesions from old inflammatory disease. During the removal of the tumor the iliac vein was torn. This was repaired, but uncontrollable oozing continued from the raw surface of the pelvic wall. The iliac artery was tied and the pelvis tightly packed with gauze to stop the oozing, but she died from shock within a few hours. Of course, these three deaths should not have occurred, but when one considers that many of these patients were in very poor condition, coming from all walks of life, our mortality of 1.60

per cent compares very favorably with the published mortality throughout the country.

Complications

Besides these three deaths, there were three cases in which the ureters were accidentally cut or tied. In the first of these, the right ureter had been pushed upwards and was lying on top of a large fibroid tumor, this was deliberately cut as we thought it was an adhesion. It was reinserted into the bladder through the distal end of the cut ureter and anchored by sutures, after which it functioned perfectly. The second case was that of a low-lying tumor in which the left ureter was cut; the ureter was sutured into the bladder through a stab wound. The woman later developed a pyelitis, but after cystoscopic dilatation, the pyelitis cleared up and she is living today. The third ureteral catastrophe occurred in a young white woman who had a large cervical tumor which completely filled the pelvis. Complete hysterectomy was done with great difficulty; the abdomen was closed and the next day, as there was no urine in the bladder, the abdomen was reopened and the left ureter was found to be tied off and the right ureter to be cut. After discovering this fact, the left ureter was released and the right ureter was transplanted into the bladder; a vesico-vaginal fistula then occurred, but, after the sweating of much blood on our part and after the performance of many operations, we hope that it is cured.

Also following a vaginal hysterectomy we had an immediate postoperative hemorrhage from a vein in the left broad ligament, necessitating a blood transfusion, followed by opening the abdomen and tying off the bleeder. Among the minor complications were pyelitis (5), cystitis (5), pleurisy (1), and bronchitis (1).

So far, the chagrin of these complications is somewhat mitigated by the fact that we have had no postoperative obstructions, pneumonia, or phlebitis. We believe that the absence of postoperative obstructions is due to the manner in which we cover the cervical stump with the reflected bladder peritoneum, the round ligaments having been sutured together over and including the cervical stump.

Summary

One hundred eighty-seven cases of hysterectomy have been reviewed, with a mortality

of 1.60 per cent, which we think compares favorably with other statistics. We believe spinal to be the anesthesia of choice as it causes less shock to the patient and enables us to perform the operation with greater ease. Though only 12 vaginal operations were done, the mortality being nil and the morbidity being the lowest of the three types of operation, we believe this is the safest operation and feel that it should be practiced more often. We prefer the supravaginal to the complete abdominal hysterectomy, believing it a much safer type of operation, as definitely brought out by our mortality rate of 0.66 per cent and 10 per cent respectively. In addition, we have not found any malignancies developing in

the cervical stumps. Our practice is in a large rural section where a personal relation exists between physician and patient, thus enabling us to constantly keep in touch with the patients, and should any malignancies develop, we feel that we would know of them, either through the patient coming directly to us or through information given us by some physician in the same vicinity. After having carefully considered the above stated facts, it is concluded by us that spinal anesthesia is the most satisfactory anesthesia for performing hysterectomies, that vaginal operations should be performed more often, and that the supravaginal hysterectomy is to be preferred to the complete hysterectomy.

DISCUSSION ON PAPER OF DOCTORS ELLIOTT, PATTERSON AND GATEWOOD

Dr. I. A. Ferguson (Atlanta): Dr. Elliott's analysis of his cases is excellent and his results are certainly better than the average.

I thoroughly agree with him on the question of total hysterectomy and believe that if there is suspicion of malignant change in the cervix, radiation should be the treatment of choice.

I wish to congratulate him on his treatment of the cut ureters, his results were perfect and his procedure ingenious. In my experience one is most likely to cut a ureter, in the cases where the fundus is retroverted. When the fundus is brought up one frequently finds the ureter adherent near the cornu of the uterus. Of course, one must be particularly cautious in treating cysts and tumors of the broad ligament.

The recent method of doing a comparatively high amputation in young women is worthy of mention because if an infinitesimal amount of endometrium can be left, ovarian function will be maintained, and the ensuing menopause delayed, and the unpleasant symptoms ameliorated.

Dr. Arthur D. Little (Thomasville): The authors are to be complimented on the excellent and comprehensive manner in which they have arranged their mass of valuable material for presentation. You are deeply impressed with the authors' honesty as you read their paper, as they discuss their errors, avoidable and unavoidable, with absolute candor—and this, to my way of thinking, makes this paper a most valuable addition to the literature of hysterectomy.

As you will note, there is a preponderance of total abdominals. The two deaths occurred in subtotal

cases. Regardless of this record and that of the authors of the paper under discussion, we still believe that a total abdominal hysterectomy is a more formidable procedure and the death rate will be higher, as a rule. Teamwork and a careful selection of cases are necessary to obtain such a death rate as here reported.

The operations we are reporting were done by three different surgeons, and the three of us are agreed as to the type of operation indicated in certain conditions; for instance, we are agreed that vaginal hysterectomy is best suited in uterine prolapse where plastic work is almost always necessary.

We were fortunate enough not to cut or tie any ureters so far as we know. If we did so we failed to recognize the complication.

The two deaths which occurred in our series were due, in one case to a thrombosis which occurred on the seventh postoperative day; the other was due to a slow postoperative hemorrhage which formed an infected hematoma having a colon bacillus odor. The abdomen was reopened and drained, and several transfusions given, but the patient died about three weeks after the initial operation.

We are in thorough accord with the essayists as to the anesthetic and if the patient is a suitable case for spinal anesthesia it is ideal as it gives beautiful relaxation, making it unnecessary to use forcible retraction, and requiring the minimum amount of gauze packs. Many of our cases were done under spinal.

Another thing that strikes you forcibly is the fact that they were able to recognize and, therefore, correct several technical errors which materially aided them to obtain a most complimentary low mortality rate.

Still another point, just for the sake of emphasis, is

We had a total of 106 cases—for 12 months, ending April 1, 1938.

| Type | Total Abdominal | | | Subtotal | | | Vaginal | | Grand Total |
|--------------------------|-----------------|------|-------|----------|------|-------|---------|------|-------------|
| | White | Col. | Total | White | Col. | Total | White | Col. | |
| No. of Cases | 47 | 4 | 51 | 32 | 9 | 41 | 14 | 0 | 106 |
| Deaths | 0 | 0 | | 1 | 1 | 2 | 0 | 0 | 2 |
| Mortality | | | | | | | | | 1.88% |
| Average stay in Hospital | | | | | | | | | 15 days |

Dr. Little's table

their careful manner of peritonealization. We know it was done most carefully for not a case of intestinal obstruction occurred in the entire series of cases. If we could be assured that this lesson of complete peritonealization in hysterectomies would be taken to heart and more carefully practiced by all who do hysterectomies, this paper is well worth while for that reason alone, for obstruction would be a late complication which we see all too frequently. This paper proves that it can be avoided.

As we finished this paper, prior to its presentation, we had a natural desire to compare our own cases at the John D. Archbold Hospital for the past 12 months with the authors', and with this result. Table page 297.

Dr. Charles H. Watt (Thomasville): Two years ago before this Association Dr. Little read a paper on hysterectomies performed at the John D. Archbold Memorial Hospital up to that time, that is up to 1935, I believe, and there were 443 cases. The results in the series were somewhat the same as here reported, in that there were only 45 abdominal totals, with a mortality of 11 per cent. Personally I was dumbfounded at this high mortality rate and previous to that time had begun to do more totals because of the fact that I felt we were leaving in diseased cervixes that should have been removed by reason of the fact that a number of these patients were coming back after having a subtotal hysterectomy, still complaining of discharge, even though cauterization had been done. Perhaps we were not doing the cauterizations as complete as they should have been.

Since that time, as you will note from Dr. Little's recent report, I think other members of the staff must have felt the same way because the number of total hysterectomies now being done has greatly increased. Since that time I have done 174 hysterectomies, with 89 of the 174 being total abdominals and 70 only being subtotals, the others being vaginals. Of that number of 174 there was only one death, and that death was a subtotal, one of those Dr. Little reported a moment ago.

It seems to me that this is as it should be. By a proper selection of our cases for total hysterectomies I believe the higher death rate would naturally fall in the subtotals, for the simple reason that in the subtotals we have a class of patients who are poorer surgical risks, as a result of prolonged adnexal disease, or because of hemorrhage from large uterine tumors, these patients are naturally greater surgical risks. Therefore, I think by care and discretion and the choice of patients, the total abdominal mortality should be lower than in the supravaginals, or certainly equally as good.

Dr. John W. Turner (Atlanta): I have enjoyed Dr. Elliott's paper very much, and am entirely in accord with him as to the relative mortality of supravaginal and complete hysterectomy, but believe that the cervix should always be carefully examined before a supravaginal hysterectomy is done. Scar tissue should be removed along with the cervical mucosa and all other diseased tissue of all cervixes not removed.

The sedimentation rate of the blood of all patients who have had pelvic infections should be studied and operation should be deferred until the sedimentation

rate is normal and the infection has subsided. The sedimentation rate is a reliable index of the activity of infection and attention should be given to its determination before operation. Such a study would tend to remove the objection to which Dr. Watt has called attention in his discussion.

Dr. Elliott is quite right in saying that the incidence of cancer in the cervical stump is between $\frac{1}{2}$ and 2 per cent. The difference in the mortality of the supravaginal hysterectomy and of the complete hysterectomy is about 6 to 8 per cent in the hands of the average operator:—in the supravaginal the mortality is 1 to 2 per cent and in the complete mortality is 3 to 8 per cent. As the incidence of cancer in the stump is only $\frac{1}{2}$ to 2 per cent, a saving of 3 to 4 lives per hundred operations will result from the election of the supravaginal hysterectomy in preference to the complete, as the operation of choice in all suitable cases. I feel sure that careful attention to the stump that is to be left in will result in a decrease in the incidence of cancer in the cervical stump. As these statistics are from the mortality reports of the larger hospitals and include a large number of patients, I think the case for supravaginal hysterectomy with careful attention to the stump is almost complete.

Dr. C. F. Holton (Savannah): There are two practical things as to hysterectomy. At a meeting in Charlotte recently some doctor whose name has escaped me brought out one point that I have used three times in the past two weeks, and it works; that is, immediately after the abdomen is opened, inject a cc. of pituitrin into the body of the uterus. It will cause the uterus to shrink and will pump all the blood in that organ back into the circulation, in effect giving the patient an autogenous transfusion. The uterus will blanch immediately and the shrinking of it makes removal of the uterus much easier. As I said, I have tried it three times in the past two weeks, and it really works. I had never heard of it until this man in Charlotte brought it out.

The ligation or tearing of the ureter is an accident fraught with disaster to the patient. The simple insertion of catheters into the ureters prior to hysterectomy will prevent that accident. One cannot often isolate or determine the ureters in the large fibroid cases but if there are catheters in the ureters there is no chance to mistake them. A urologist can insert these catheters while the surgeon is scrubbing up and the feeling of security the surgeon realizes when he feels the catheters is certainly worth the trouble in having them inserted.

Dr. Ralph H. Chaney (Augusta): I want to give support to vaginal hysterectomy. If you notice these records you will see that it is without mortality. There are certain things that have come in my experience that I believe support that. At the present time my personal cases of vaginal hysterectomy represent 192 cases. The oldest was a woman of 82 who is now 91 years of age. The youngest was a woman of 38. In that series of cases I have not had a single death. I can't state definite figures for the other two methods of hysterectomy in my own work, but if we can carry a series of that num-

ber without mortality, in which the age is high, it is a method that should be a great deal more widely used than it is at the present time.

A great many men feel that the vaginal method of hysterectomy does not give adequate exposure, but if the anatomic situation is recalled, if we get poor exposure, it is very easy to do the muscle splitting exposure of Anspach and you can get almost the same exposure through the perineum that you can from above.

I have taken out fibroids of large size through the perineum without difficulty, and I believe that because of its low mortality it should be a great deal more commonly considered than it is at the present time.

Dr. W. G. Elliott (Cuthbert) : I wish to thank all these gentlemen for their discussion. Vaginal hysterectomies are a whole lot harder to do for the operator, but they are easier on the patient. For that reason I think they should be considered more often.

In regard to the complication, that looks kind of bad, but those things happen. We feel we were somewhat fortunate in recognizing these complications and being able to remedy them.

The point I should like to emphasize is to be on the lookout for these things when something goes wrong and do something about them before it is too late.

I should like to thank the Association for the opportunity of presenting the paper.

A NEW FEDERAL DRUG LAW

A new federal food, drug and cosmetic law has been enacted by the national congress, according to a statement by the Public Relations Bureau of the Medical Association of Georgia. The law was sponsored by the late Senator Royal Copeland of New York, himself a physician. Senator Copeland's death occurred about the time the President signed the bill.

The new drug law will be administered by the Department of Agriculture. It is far-reaching in its scope and for the first time covers, in addition to drugs, instruments, apparatus and contrivances intended for use in the diagnosis, cure, mitigation, treatment or prevention of disease or designed to affect any bodily structure or function. Perhaps the most noteworthy achievement of this act will be the supervision over and the control of any new drug, which should prevent repetition of untimely and tragic deaths such as occurred throughout the United States last year from the premature use of elixir sulfanilamide.

The Medical Association of Georgia wishes to warn the public not to purchase and use drugs which are not approved by governmental agencies administering the national drug act. The Association stresses the need of proper medical supervision when drugs are used.

The Leslie Dana Gold Medal was awarded this year to Dr. Ellice M. Alger, New York City, "For outstanding achievements in the prevention of blindness and the conservation of vision."

Dr. Alger was selected for this honor for research in ophthalmology in cooperation with the St. Louis Society for the blind, through which the medal is offered by Mr. Dana.

THE USE OF ATABRINE IN THE TREATMENT AND CONTROL OF MALARIA AMONG A GROUP OF INDUSTRIAL AND AGRICULTURAL EMPLOYEES IN GEORGIA*

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The synthesis of atabrine (the dihydrochloride of methoxychlor-diethylaminopentyl amino-acridine) by Schulemann and his co-workers, followed by the demonstration by Kikuth (1932) of the effectiveness of the new compound in destroying the schizonts of bird malaria, has stimulated an enormous number of investigations throughout the world, as recorded in a literature numbering many hundreds of publications.

Tests with atabrine on both induced and naturally occurring malaria in human beings were carried out by Sioli, Peter, and Muhlen, who found that it destroyed all forms of the tertian and quartan parasites and the schizonts of malignant tertian malaria; but the effect on the gametocytes of malignant tertian malaria, like that of quinine, was less satisfactory. The action of atabrine was found to be similar to that of quinine with two striking exceptions. (1) The early investigators found that the period of time over which the new drug must be administered to effect the eradication of parasites and the establishment of a clinical cure was very much less than the time required by quinine to accomplish the same result. (2) The power of the new drug to prevent relapses was found to be very much greater than that of any known drug. Although practically all investigators agreed that the relapse rate after treatment with atabrine was markedly lower than that following the use of any other drug, there was considerable variation in the actual percentage of relapses reported by various authors even when atabrine was used in the same dosages and under identical methods of administration. For example, Phelps and Jantzen, working in Central America, found no re-

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lapses at all in 124 cases treated with atabrine in doses of from 0.1 to 3.0 Gm. daily for from 4 to 7 days and observed during a period of more than five months. Hoops in Malaya reported a relapse rate of 1.75 per cent in 119 cases observed for one year and treated with 0.3 Gm. of atabrine daily for from 5 to 6 days; while Duncan, also working in Malaya, noted a relapse rate of 10.7 per cent in a total of 168 patients treated with 0.3 Gm. of atabrine for five days and observed up to five months.

Foy, Kondi and Peristeris carried out a very carefully controlled experiment to determine the comparative value of several antimalarial drugs from the standpoint of relapse prevention. A highly malarious village of Greece was divided into four groups and treated with various drugs at a time of the year when no malaria transmission was taking place; so that every case of clinical malaria, or every person showing a positive blood smear, would be regarded as a true relapse and not a new infection. Each group contained about 50 persons. The first group was treated with atabrine in doses of from 0.2 to 0.3 Gm. per day for five days. The second group received quinine 0.8 to 2.0 Gm. and plasmochin 0.01 to 0.02 Gm. per day for five days. A third group received quinine 0.8 to 0.2 Gm. per day for five days. The fourth group received no antimalarial medication whatever. Five months later, before the beginning of the next transmission season, a check-up on the various groups showed the following relapse rates:

| | |
|------------------------------|-----|
| Atabrine Group | 12% |
| Quinine and Plasmochin Group | 20% |
| Quinine Group | 31% |
| Controls | 42% |

The relapse rate of the atabrine group was about one-third that of the quinine group, and nearly one-fourth that of the untreated control group. The wide divergence in the relapse rates reported by workers in the field may be explained by the presence of several variable factors, the most important of which are (1) differences in the resistance of the human hosts brought about by different racial, environmental and economic considerations, and (2) differences in the virulence of species and strains of the invading plasmodia. It is well known that *P. malariae* infections are more prone to relapse after treatment than

are either *P. vivax* or *P. falciparum*. It has also been shown by experiments on paralytics that some strains of *P. falciparum* require as much as ten times the amount of medication to effect a clinical and parasitic cure as do other strains of *P. falciparum*. Since strains of plasmodia vary widely in nature and virulence from one locality to another, and since populations differ markedly in their resistance to malarial infections, it becomes of paramount importance to study the effects of anti-malarial agents widely. Conclusions drawn from experiments in Malaya, for example, may not apply to conditions found in Georgia, and results obtained in Georgia may prove not entirely satisfactory guides to treatment and control of malaria in Louisiana.

The present paper has for its object the evaluation of atabrine as an antimalarial agent from the standpoint of its ability to produce not only a clinical cure of malaria but also a parasitic cure, i.e., a cure not followed by relapse and the reappearance of parasites in the peripheral blood. The region chosen for this experiment was situated near Ways, Bryan County, southeast Georgia. The area extends from the Atlantic coast to approximately 8 miles inland. The country is low-lying, and contains many small streams and both fresh and brackish marshes, which, during the breeding season, produce abundant quantities of anopheles, particularly *Anopheles quadrimaculatus*. The experiment was carried out on a population numbering about 1,800 agricultural and industrial workers, of whom 682 were whites and 1,166 negroes. The status of inhabitants does not differ markedly either economically or socially from that of other residents in this region.

On January 4, 1937, a survey was made of this group and thick blood smears were prepared. All blood smears throughout the period of these observations were examined by the Georgia State Health Department. Every person, regardless of the presence or absence of parasites in the blood, was given 0.3 Gm. of atabrine per day for five days. The atabrine was administered personally by trained public health nurses so that no error could occur due to irregularity of treatment.

Two weeks later a second survey was made during which 1,102 blood smears were examined, representing about 75 per cent of the

population under observation. All individuals who had had positive blood smears on the first examination were included in the second examination. All positives at this second examination were given a course of plasmochin (0.02 Gm. per day) for three days. On March 22, about two and one-half months after the beginning of the experiment, a third blood smear was taken of all individuals that had had positive bloods at the beginning of the experiment. Table 1 gives the results of the first examination by age groups and race.

There were 33 cases (or 2.9 per cent) which were resistant to one five-day course of treatment by atabrine. Following the second blood examination a course of treatment with plasmochin (0.02 Gm. per day) for three days was given each of these resistant cases. A re-examination of the 157 individuals whose smears were originally positive at the first examination was made on March 22 after the course of plasmochin treatment. This examination showed two positives, both in the adult group, one of which had been diagnosed *P. falciparum* previously, but

TABLE 1
BLOOD PARASITE INDEX AT FIRST EXAMINATION
RACE AND PARASITE INDEX

| Age | CAUCASIAN | | | NEGRO | | | CAUCASIAN AND NEGRO | | |
|-------------------|-------------|-------------|------------------|-------------|-------------|------------------|---------------------|-------------|------------------|
| | No. Exd. | No. Pos. | Per cent Pos. | No. Exd. | No. Pos. | Per cent Pos. | No. Exd. | No. Pos. | Per cent Pos. |
| Under 1 Year | 10 | 1 | 10.0 | 25 | 3 | 12.0 | 35 | 4 | 11.4 |
| 1-4 Years | 46 | 2 | 4.3 | 109 | 15 | 13.7 | 155 | 17 | 10.9 |
| 5-9 Years | 68 | 1 | 1.5 | 122 | 17 | 13.9 | 190 | 18 | 9.5 |
| 10-14 Years | 81 | 1 | 1.2 | 127 | 25 | 19.7 | 208 | 26 | 12.6 |
| 15 Years and over | 477 | 16 | 3.4 | 783 | 76 | 9.7 | 1260 | 92 | 7.3 |
| All Ages | 682 | 21 | 3.1 | 1166 | 136 | 11.7 | 1848 | 157 | 8.5 |

It is worthy of note that the figures on which Table 1 are based represent conditions at a time of year when transmission of malaria has ceased, and when malarial morbidity is at its ebb. Had this survey been made several months earlier, the malarial incidence would surely have been markedly higher. Another factor which depresses unduly the malarial incidence as portrayed in Table 1 is the abundant use of "chill tonics" and quinine in small doses, which tend to prevent the appearance of parasites in the peripheral circulation, thus causing a "negative smear" without eradicating the infection completely.

which was probably a mixed infection of *P. vivax* and *P. falciparum*. This blood now showed only *P. vivax* parasites. The second patient had *P. falciparum* parasites at both examinations. Two other positive smears were found at this examination, but both were in infants treated with cocoa-quinine only.

It must be borne in mind that the relapses after treatment shown in Table 4 are all parasitic relapses and not clinical relapses. In no case throughout the entire experiment did clinical symptoms of malaria appear after a single course of atabrine or plasmochin treat-

TABLE 2
INCIDENCE OF SPECIES AMONG PARASITE POSITIVES—FIRST EXAMINATION

| Age Group | CAUCASIAN | | | NEGRO | | | CAUCASIAN AND NEGRO | | |
|-------------------|-------------|---------------|-----------------|-------------|---------------|-----------------|---------------------|---------------|-----------------|
| | No. Pos. | Pct. Vivax | Pct. Falcip. | No. Pos. | Pct. Vivax | Pct. Falcip. | No. Pos. | Pct. Vivax | Pct. Falcip. |
| Under 1 Year | 1 | 0.0 | 100.0 | 3 | 0.0 | 100.0 | 4 | 0.0 | 100.0 |
| 1-4 Years | 2 | 0.0 | 100.0 | 15 | 6.7 | 93.3 | 17 | 5.9 | 94.1 |
| 5-9 Years | 1 | 0.0 | 100.0 | 17 | 0.0 | 100.0 | 18 | 0.0 | 100.0 |
| 10-14 Years | 1 | 0.0 | 100.0 | 25 | 4.0 | 92.0 | 26 | 3.8 | 92.4 |
| 15 Years and over | 16 | 12.5 | 87.5 | 76 | 7.9 | 84.2 | 92 | 8.7 | 84.7 |
| All Ages | 21 | 9.5 | 90.5 | 136 | 5.8 | 89.1 | 157 | 6.4 | 89.2 |

Table 3 shows the incidence of malaria by age groups in white and negro populations about two weeks after the administration of one course of atabrine (0.3 Gm. per day) for five days. The total parasite index for all ages decreased from 8.5 per cent to 2.9 per cent. All positives at the second examination also had been positive in the first examination.

From the results shown in Table 4, it is apparent that a single five-day course of atabrine accomplished a parasitic cure in 90 per cent of *P. vivax* infections and in 79 per cent of *P. falciparum* infections.

After a three-day course of plasmochin in cases not parasitically cured by atabrine, 100 per cent of *P. vivax* cases and 99 per cent of

P. falciparum cases were rendered parasite free.

Considering all types of malarial infections found in this locality, 79 per cent of cases

larial morbidity in the treated portion of Bryan County in 1937 was very much less than in the neighboring counties of Chatham and Liberty during the same period. The in-

Note: In seven positive smears the species of plasmodium was not determined.

Table 2 shows the incidence of species of plasmodium among all parasites found at the first examination.

TABLE 3
BLOOD PARASITE INDEX—SECOND EXAMINATION
RACE AND PARASITE INDEX

| Age Group | No. Exd. | CAUCASIAN | | | NEGRO | | | CAUCASIAN AND NEGRO | | |
|-------------------|-------------|-------------|------------------|-------------|-------------|------------------|-------------|---------------------|------------------|-------------|
| | | No. Pos. | Per cent Pos. | No. Exd. | No. Pos. | Per cent Pos. | No. Exd. | No. Pos. | Per cent Pos. | No. Exd. |
| Under 1 Year | 2 | 0 | 0.0 | 12 | 1 | 8.3 | 14 | 1 | 7.2 | |
| 1-4 Years | 35 | 1 | 2.9 | 70 | 7 | 10.0 | 105 | 8 | 7.6 | |
| 5-9 Years | 51 | 0 | 0.0 | 72 | 2 | 2.8 | 123 | 2 | 1.6 | |
| 10-14 Years | 70 | 0 | 0.0 | 75 | 5 | 6.7 | 145 | 5 | 3.4 | |
| 15 Years and over | 313 | 3 | 1.0 | 429 | 14 | 3.3 | 742 | 17 | 2.3 | |
| All ages | 471 | 4 | 0.8 | 658 | 29 | 4.4 | 1129 | 33 | 2.9 | |

TABLE 4
RESULTS OF ONE COURSE OF ATABRINE AND ONE COURSE OF PLASMOCHIN
ALL AGES—BOTH RACES

| Species of Plasmodium | First Examination Before Treatment | | Second Examination After One Course of Atabrine | | Third Examination After One Course of Atabrine and One Course of Plasmochin in Resistant Cases | |
|--------------------------|---------------------------------------|----------|-------------------------------------------------------|------|---------------------------------------------------------------------------------------------------------|------|
| | No. | Positive | No. | Pos. | No. | Pos. |
| Vivax | 10 | | 1 | 10.0 | 0 | 0.0 |
| Falciparum | 139 | | 29 | 20.7 | 1 | 0.7 |
| Undetermined | 7 | | 3 | 42.8 | 0 | 0.0 |
| TOTAL | 157* | | 33 | 21.0 | 2* | 1.3 |

*Total includes one mixed infection identified as *P. falciparum* at first examination and as *P. vivax* at third examination.

were parasitically cured by a five-day course of atabrine; the curative rate increased to 99 per cent after an additional three-day course of plasmochin, administered in the resistant cases.

During the summer of 1937, ten clinics were operated in this region. Thick blood smears of all patients presenting themselves at any of the clinics for any cause were taken and examined. Results of these examinations are shown in Table 5.

habitants, medical officers and nurses were unanimous in their opinions that malaria was very much less prevalent in this area than it had been during previous years. This only serves to emphasize how much clinical malaria occurring in any one year is due, not to new infections, but to relapses from previous years. More than half of the 52 positives in Table 5 represent persons who moved into the treatment area during the summer, and who had, therefore, not been included in the

TABLE 5
INCIDENCE OF MALARIA DURING SUMMER FOLLOWING TREATMENT

| INCIDENCE OF MALARIA DURING SUMMER FOLLOWING TREATMENT | | | | | | | | |
|--------------------------------------------------------|----------------------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|--|
| | VIVAX | | | FALCIPARUM | | ALL SPECIES | | |
| <i>Month</i> | <i>No. Blood Smears Examined</i> | <i>No. Pos.</i> | <i>Pct. Pos.</i> | <i>No. Pos.</i> | <i>Pct. Pos.</i> | <i>No. Pos.</i> | <i>Pct. Pos.</i> | |
| May | 115 | 3 | 2.6 | 0 | 0.0 | 3 | 2.6 | |
| June | 158 | 9 | 5.7 | 2 | 1.3 | 11 | 7.0 | |
| July | 78 | 3 | 3.8 | 6 | 7.7 | 9 | 11.5 | |
| August | 61 | 5 | 8.2 | 5 | 8.2 | 10 | 16.4 | |
| September | 142 | 2 | 1.4 | 13 | 9.2 | 15 | 10.6 | |
| October | 249 | 0 | 0.0 | 4 | 1.6 | 4 | 1.6 | |
| TOTAL | 803 | 22 | 2.7 | 30 | 3.7 | 52 | 6.5 | |

The onset of *P. vivax* infections preceeded that of *P. falciparum* by a full month. By June, *P. vivax* had nearly reached its peak whereas *P. falciparum* did not become common until July. After August, *P. vivax* infections became rare but it was not until October that a sharp decline occurred in *P. falciparum* infections. The prevalence of ma-

treatment program carried out earlier in the year. The remainder represent largely new infections acquired during the malaria season of 1937, rather than relapses from older infections. A partial re-check of the treated population during January, 1938, showed only one positive (*P. falciparum*) 3 per cent as compared with 8 per cent in January, 1937.

Discussion

Before the beginning of the experiment, the fact that atabrine is a yellow dye was explained carefully to each individual. All participants were warned that the skin and sclerae of the eyes might become tinged temporarily with this yellow pigment. It was further explained that this discoloration, if it did occur, was entirely transitory in nature and wholly harmless. We felt that it was extremely important that this explanation be made in order to obtain a maximum of cooperation. The splendid cooperation which we did receive however (less than a dozen individuals refused treatment or failed to complete the course) was most certainly due to the great suffering which the people had undergone from malaria in this locality during previous years. No serious by-effects which could have been ascribed to the treatment were noted. Fewer than 10 per cent had any noticeable discoloration of the skin or sclerae due to atabrine. It is believed that, partly due to our previous warning, there were no complaints or lack of cooperation from this cause. One very severe case of dermatitis exfoliativa occurred in a man shortly after the administration of the January course of atabrine. As the man denied the taking of any other drug, we could not disprove that atabrine did not play some part in this single case. A very thorough search of the enormous literature which has grown up around atabrine administration failed to reveal a single report in which atabrine had been held responsible for the occurrence of this condition. Of the entire group of 1,848 persons that atabrine was known to be actually administered to in the complete five-day treatment not a single mental disturbance of any type was observed. In mass treatment experiments of this nature the probability of the occurrence of some wholly coincidental condition is very great. In our opinion there was no causal relationship between the administration of atabrine and the occurrence of this case of dermatitis exfoliativa.

Conclusion

An experiment in the control of malaria by mass treatment with atabrine was carried out over a period of one year in a region of southeastern Georgia. In our opinion the results

were superior to those obtainable with any other antimalarial drug. The advantages of atabrine are rapidity of clinical response and shortness of the course of treatment required to render the blood permanently parasite free. The disadvantages are the occasional discoloration of the skin and sclerae of the eyes and, in malignant tertian infections, the necessity of supplementing atabrine (as in the case of quinine) by the use of plasmochin to eradicate the gametocytes.

Atabrine in our hands has proven itself a safe and efficient agent for the treatment of malaria.

*Read before the Medical Association of Georgia, Augusta, April 27, 1938.

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DISCUSSION ON PAPER OF DRS. HOLTON AND WINCHESTER

Dr. Stewart R. Roberts (Atlanta): I am not an authority nor an expert on malaria. On the other hand, for a physician living in a community like Dr. Holton does, or like Dr. Roy Hill does in Thomasville, Georgia, they are true servants of the community in this antimalarial work. I was in Thomasville two weeks ago and Dr. Hill went over his work with me. He is doing a great work there, as Dr. Holton is doing a great work in his section. Dr. Hill, as well as Dr. Holton, is very favorable toward atabrine.

I confess as time goes on I become more and more conservative about drugs. I think the time has come for the medical profession to be conservative about drugs. I have seen two cases of extreme nervousness that came after atabrine had been administered. That is all I can say. The patients attributed it to atabrine. I have heard, but have not seen, that there have been certain nervous and mental disturbances. One of these ladies considered herself in a state of nervousness and there was certainly yellow discoloration for a period of six months. I, of course, lack any great experience with the drug such as Dr. Holton has had. I wonder, however, if the profession took up quinine sulphate, which is soluble in ten parts of water, as contrasted with quinine bisulphate, which is soluble in some 650 parts of water, if quinine bisulphate would not be a more valuable drug than we now take it to be. Certainly atabrine contains in it a dye (Dr. Holton referred to it in his paper) that notably at times discolors the skin, and that is not a very attractive feature.

If Dr. Holton will allow me to say this, I doubt if one going to a community only once a week, with a great mass of people, can determine the nervous upsets

and vagaries, if there are any, of the mind, that any drug may cause, as well as he could if he were in an institution where his nurses and orderlies could notice these things from time to time. I find people with a very low order of education if not of intelligence, not very susceptible to a description of their nervous states and their mental variations.

Dr. C. F. Holton (Savannah): I appreciate having been able to bring forth a paper that was discussed by Dr. Roberts. I appreciate his remarks. As to visiting them once a week, I run a clinic there and go to the clinic once a week. I go there a great deal oftener than that. I have just completed examining 312 school children down there. I keep three nurses at the clinic all the time. These people are all poor people; all of them draw their sustenance from Mr. Ford; he employs about 400 of them. Of course the rest of them are these employees' families. They get free medical attention. If they get sick they report to these nurses; if they are very sick for any reason at all they are sent to my office in town or I go down there on special occasions to see them. I have been in touch with those people rather constantly. I know most of them personally, white and black, and I am sure that none of those people have had any nervous symptoms.

As to whether you could observe it better in an institution, of course you could, but with the exception of the past summer when Mr. Ford imported a lot of laborers from town, some special men that added to the population, the majority of them were bred and born right in that community, and I know that I would be the first one notified if any of them had any nervous disorders.

As to the discoloration of the skin, it is unpleasant, but I have not seen any cases last very long; they last two or three months at the most, and that is in very white people, women who work indoors mostly. I have seen that once or twice with some of our nurses, but it didn't cause any discomfort to amount to anything, except they didn't like to be jaundiced looking.

One advantage that I find in atabrine over quinine is that you cannot make an ignorant person take quinine sufficiently long to cure malaria. The United States Public Health Service says it takes about ninety days of quinine administration to clear malaria. They recommend 40 grains a day for 5 days, 20 grains a day for 10 days, 10 grains a day for 20 days, and 5 grains a day for 40 days. If you can get a person to take quinine that long it will cure malaria and eradicate it from the system, but in my experience they will not take it long; they will take it until the symptoms are gone and then quit it, they will take chill tonics, or things like that. The atabrine has the advantage that they will take it for five days. It causes no inconvenience, and I have not had a single person object to taking atabrine. I think it is a very valuable drug. I don't think it should entirely supplant quinine or any of the other antimalarial remedies. There are other things that are used in malaria, but this paper deals only with atabrine, so I didn't bring them in.

DIAGNOSTIC TRAPS IN GASTRO-ENTEROLOGY*

TRIMBLE JOHNSON, M.D.

Atlanta

Any doctor, doing much work in gastroenterology, should realize that he is dealing with more diagnostic pitfalls than are found in any other field of medicine. When it is realized that gastroenterology covers not only the digestive tract, but all diseases and symptoms arising through or from that system, it is easy to see that just a handful of digestive complaints can make one consider practically the whole field of internal medicine, and parts of psychiatry, neurology, eye, ear, nose and throat, urology, surgery, orthopedics, gynecology and obstetrics.

After twenty years' special interest in this field, I would like to give some short cuts to diagnosis, but can do only the opposite. Every year seems to add, rather than subtract some necessary diagnostic procedure, and one object of this discussion is to emphasize the necessity of considering every organ and function in the body, in diagnosing a gastro-intestinal complaint.

It should be of interest, and possibly of value, to summarize briefly the most serious mistakes, made and seen, in this type of diagnosis, and I have chosen for discussion only these errors seen more than once, and which jeopardized the life, or seriously affected the health or finances of the patient.

The Neurotic and Nervous Indigestion

Most diagnoses of nervous indigestion are wrong. We all know that the functions of the digestive tract are more easily influenced by emotions than any other functions of the body, but the only pathognomonic sign of the neurotic is the patient's interrupting the doctor's instructions to give him a symptom they had forgotten. Probably three months and a most thorough examination is necessary to justify this diagnosis. Every doctor should read Alvarez's book on this subject.

My series of so-called neurotic patients includes three cancers of the stomach, two of the colon, two of the pancreas, and two of the rectum, with several cases each of cor-

*Read before the Medical Association of Georgia, Augusta, April 27, 1938.

onary occlusion, postoperative adhesions, pellagra, hyperthyroidism, tuberculosis, megacolon, malaria, allergy, eyestrain, gallstones, hookworm, focal infection, impacted third molars, and pelvic tumors.

The Syndrome of Dizziness, Headache, and Nausea

With this group of symptoms, or any two of them, study them in the order named. Nausea cannot cause headache or dizziness, but can be produced by either. Illustrative cases are:

Case Reports

Case A-1. A boy, 16, had been kept out of school three years with prostrating attacks of headache, nausea, and vomiting. Seen at Anti-tuberculosis Clinic where he had been sent with a question of tuberculous meningitis. The vertigo had evidently been overlooked. A pair of glasses gave prompt relief.

Case A-2. A middle-aged man, had been examined by eight doctors for persistent vomiting. Much money and time lost. Dizziness overlooked. Wax pressing on ear drum. Removal gave prompt relief.

Case A-3. A man, 25, much indigestion recently. Two prominent surgeons had recommended appendectomy. Another case of wax against ear drum.

Case A-4. In dealing with gastrointestinal complaints occurring with, or following influenza, look to the ethmoidal sinuses. Pain on moving the eyes, and the loss of taste (or smell) is almost diagnostic. There may be such a thing as intestinal flu, but don't let the assumption trap you. Illustrative case . . . Man lying crossways of bed in a stupor, ten days after onset of flu. Nothing retained by mouth and no bowel movement for five days. Was dying from starvation acidosis. History showed severe headache from onset until loss of consciousness. There was no nasal secretion, but shrinkage of membranes drained an ounce of pus from the ethmoids. Patient practically well the next day.

The Gallbladder Syndrome

Case B-1. Man seen at Grady Hospital, isolated on a porch in freezing weather. Had been sent from surgical to medical ward with diagnosis of acute appendicitis and acute gallbladder disease. Operation withheld because of erysipelas on face. Examination found diaphragmatic pleurisy. Erysipelas saved him from a needless operation, and probable ether pneumonia.

Case B-2. Diagnosis of gallbladder disease made. Positive Wassermann and relation of pain to exertion then caused a change of diagnosis to aortitis. In an attack soon after, an intern diagnosed acute gallbladder and acute appendicitis. Anticipating the future, I warned the patient not to be operated on. He died in another city a week later, as the surgeon made his incision.

Case B-3. Elderly man with x-rays showing gallstones. Referred by a surgeon who was reluctant to operate because of patient's bad heart. X-ray of stomach, done without much reason, showed stenosis of duodenum with twenty-four hour gastric retention. Patient referred back to the surgeon, who did a gastro-

enterostomy, and left the gallbladder alone. I wish to make this case a strong plea for a thorough pre-operative examination, because I really did not expect to find anything on my x-ray study.

Case B-4. Middle-aged, slightly obese man, having frequent attacks of upper abdominal pain, diagnosed gallbladder colic by several. Basal metabolism was normal, but a rapid pulse and recently developed nervousness made me plead for time and future basals before consenting to gallbladder surgery. The patient, when next seen, a year later, had a thyroidectomy scar, and a bad exophthalmos.

Diaphragmatic pleurisy, though not a gastro-intestinal condition, should have special discussion in a paper of this kind.

Case C-1. The erysipelas patient in the gallbladder series.

Case C-2. Man in hospital with x-ray diagnosis of inoperable cancer of stomach. Surgeon scrubbed and waiting to do gastroenterostomy. A friend intervened, and brought patient to me for examination. X-ray then showed a normal stomach. Symptomatic treatment stopped the vomiting, but on the next visit he still had some pain. At this time his extremely hairy chest was shaved and a loud pleural rub found. I later saw his first x-rays, and the stomach was contracted to one-third size by the reflex spasm.

Case C-3. Young woman, one week after appendectomy, was suddenly taken with wave-like pain, nausea and vomiting. Her pulse was 160, there had been no bowel movement that day, and enemas failed to produce one. After an hour's futile search for the correct diagnosis, the surgeon and I called a well known consultant, who insisted on immediate operation of obstruction. The suddenness of the pulse rise to 160, the predominance of the nausea over the vomiting, and the relation of the latter to motion of the body, influenced me to refuse the operation. She was my patient. I had advised the first operation, and the appendix was all right. It was with an actual chill that I took my stand, but the next day a pleural rub could be heard over the whole left chest.

Peptic Ulcer: When a gastric ulcer is diagnosed, the patient should be x-rayed every week the first month. If marked improvement is not shown by the end of that time, the patient should be operated on for probable cancer. A diagnosis of duodenal ulcer is not complete. The ulcer should be classified as to the probable degree of stenosis left after healing, with the possibilities of necessary surgery told the patient. This estimate is determined by x-ray after a few weeks of treatment. When a duodenal ulcer is not symptom-free after two weeks of treatment, the re-examination should start. Look particularly for tuberculosis, hookworm, focal infection, syphilis, cholecystitis, chronic appendicitis, and adhesions.

Case D-1. Man referred by a surgeon, with a duodenal ulcer found and promptly cured. Five years later the symptoms returned and the patient returned. Several months failed to show a definite improvement, so the patient was told to report to the surgeon for operation. He went to another internist instead, who removed his trouble by taking out his tonsils.

Case D-2. Woman seen in consultation, x-ray showing duodenal ulcer, two months of treatment not relieving symptoms. Instead of changing treatment gallbladder x-ray was requested, and seven stones found.

Case D-3. Man treated for ulcer for two months, no relief of symptoms. Operation advised, fearing perforation. Adhesion from old appendix scar to duodenum found.

Cancer: Generally speaking, the later we find cancer of the pancreas, gallbladder or liver, the better it is for all concerned, but cancer of the stomach or intestines cannot be found too soon. If we wait for real indications, it is usually too late for curative surgery, so the only safe plan is the routine x-ray of the chronic patient. Probably the most serious diagnostic trap of all is the recent examination. In a patient who is not doing well, a re-check of the G.I. x-ray is just as reasonable as a re-examination of the blood or urine.

Case E-1. Man 65, indigestion symptoms of ulcer type for four months. X-ray by excellent roentgenologist a month before. Decided to x-ray him myself—nothing found. A week later, after much thought, one swallow of barium was given, and patient laid on his back. Then, standing, a definite pouch was demonstrated on the posterior wall of the stomach. Operation showed far advanced cancer.

Case E-2. Woman, aged 34. Films showed pressure defect in stomach from carcinoma of the pancreas. Patient then reported a negative examination by x-ray specialist three weeks before. A review of his films still failed to find the evidence showing at that time. Three weeks later, the bulge of the tumor was visible.

Case E-3. Woman, aged 60, neurotic history, upper abdominal pain; two x-rays, one by expert specialist, within last six weeks. Nothing found wrong. X-rayed her myself and found nothing. A month later, on the verge of losing the patient to another doctor, a conference with the previously seen roentgenologist was held. A comparison of our films, and an hour's deliberation, resulted in another x-ray, upside down, and a diagnosis of cancer of the cardia of the stomach. In many cases, one x-ray study of the G.I. tract only tells you what to do on the next.

Case E-4. Man, aged 40, in financial straits. Examination report from good doctor, showing only colitis. Refused further examination because of expense. My sympathy led me to prescribe on the former examination findings. My sympathy led me to miss a cancer of the colon, found three months later by another doctor, too late to save the patient's life. I might have found it soon enough.

On the other side of the picture is the false diagnosis of cancer. Practically every such case should have the benefit of two to three weeks' confirming treatment and study. You will find more cases of other conditions in the stomach simulating cancer than you will find of curable gastric malignancy.

Case F-1. Elderly woman, thirty pounds under weight, anemia, and achlorhydria. Constant large defect found in stomach. Patient too weak to consider surgery, though unqualified diagnosis of malignancy was made. Palliative and symptomatic treatment started, and when last seen, six years later, the patient was still improving. Probably had pellagra.

Case F-2. Elderly man, much loss of weight, anemia, achlorhydria, films seen in consultation. Diagnosis of cancer agreed on by three good men. Patient was close friend of the doctor in charge, and though refusing to actually disagree with the diagnosis. I mentioned the embarrassment of a needless operation, and insisted on two weeks treatment. That was ten years ago, and the patient is still in good health.

It has been my privilege to prevent four operations on false diagnoses of stomach cancer, and in no case was it by superior interpretation of the films, but by insisting on two weeks' treatment and study with a re-examination at the end. On the other hand, it has been my misfortune to overlook one cancer, and be from six to ten weeks late in finding two others, simply from thinking of the patient's pocketbook, or my own, and trusting previous x-ray examinations.

One of the most frequent mistakes I have seen is diagnosing the cecum as adhered in the pelvis. I made my first error of this kind many years ago (Case C-3), and since then have refused to make such a diagnosis without repeated examinations. The barium meal is heavier than ordinary food, and a cecum distended with it can become locked in the pelvis like a ball-and-socket joint. No amount of tilting or pushing will get it out. Frequently, however, as the barium weight shifts to the transverse colon, the deflated cecum will rise from the pelvis, suggesting a pulley-like action on the hepatic flexure. You will often see a cecum immovable from the pelvis at the 24 hour study, resting high in the iliac fossa at 48 or 72 hours. In one patient, after one of the best had diagnosed adherence of the appendix to the bladder, I was able to push the former organ clear up against the liver.

Intestinal Parasites: There is no doubt that hookworm is on the decrease, but on a patient reared in the rural districts of the South, there should be a routine stool examination. The statement that one infestation can last only seven years is open to much argument.

Case G-1. Strong, heavily built, and athletic young man, with vague abdominal distress; appendectomy advised by two independent diagnosticians. My technician found hookworm, entirely unsuspected by me, and all symptoms were soon relieved.

Case G-2. Cultured white woman, born in the country but living in the city for the last fifteen years. Indefinite pain in right side started her on a tour of the big medical clinics of the nation, ten years ago. Only one operation per clinic was done. Appendix removed. Right kidney suspended. Uterus suspended. Gallbladder drained. Gallbladder removed. Adhesions released. More adhesions released. Tonsils removed several times. At the age of 35 a South Georgia doctor found her full of hookworm.

Many claim that if eggs are not found on a routine examination, the patient hasn't enough hookworm to produce symptoms. I have seen this disproven many times.

Case G-3—White boy, age 19, in bed at Grady Hospital. Weak and very pale. Red count two million; other laboratory work negative. Case so interesting that every doctor on medical service, and some not on the staff, examined him. Physical examination negative by all but two, who found enough tuberculosis to satisfy them. Eleven different diagnoses were made, even including chlorosis. Daily stool examination was finally ordered, and hookworm ova found on the fifth day. Patient up and gone in two weeks.

Appendicitis: The ruptured appendix is without doubt modern medicine's greatest shame, and I will show my respect to acute appendicitis by not trying to include it in a general discussion. The reputation of chronic appendicitis, however, is somewhat on the other foot. Twenty-five per cent of all the patients I have seen have had their appendices out; and of those complaining of dyspepsia, 50 per cent have given a history of appendectomy. Of course many of these operations were unnecessary. Personally, I am always glad to find that diagnostic problem already solved, but the issue remains. After telling some dozen or more patients, in the treacherous darkness of the fluoroscopic room, that they had chronic appendicitis, and to find that the said organ has long ago been removed, it was realized that we could have the same symptoms and palpation findings, with or without the appendix. With this in mind, it is rational to insist on a few weeks of treat-

ment with anti-spasmodics, bowel regulation, and a consideration of other possibilities, even when the diagnosis appears positive. Arguing for the other side, I will also contend that an abdominal pain, not affected by medical treatment in two weeks, is most probably surgical. Every patient with a suspected chronic appendix should have the benefit of a fluoroscopic study. Not all pericecal and ileal bands are easily seen with a conservative exploration. Certainly any surgeon who has struggled many times with adhesions, would rather have his own abdomen explored with an x-ray than with a rough gauze pad.

Summary

The gastro-intestinal complaint calls for a consideration of every organ and function of the body. The study of a symptom resisting treatment for more than two weeks, should include detailed history and physical, gastric analysis (registering mucus as well as acid), fecal study for occult blood, undigested food, parasites and ova; urinalysis; blood count and Wassermann; x-ray of stomach and intestines; and, on the slightest provocation, the chest and gallbladder. If the examination does not satisfactorily explain the symptoms, it should be extended and repeated until the whole truth is found. It is only by this attitude that we can pick up the early cancers.

When a patient shows no improvement after three weeks of treatment, one of three things must be true. The patient has a medically incurable condition, the diagnosis is incomplete, or the treatment is wrong. Probably the greatest fault we doctors have is forcing the factors in a given case to fit the diagnosis we are trying to make.

DISCUSSION ON PAPER OF DR. TRIMBLE JOHNSON

Dr. William R. Dancy (Savannah): You have heard a very interesting, valuable and dynamic paper on the pitfalls of the gastroenterologist. It is so comprehensive and so far-reaching that it will be my pleasure to discuss only one or two of the points contained therein.

Dr. Johnson refers particularly to ulcers of the stomach. We have had one paper on this subject, and I also include duodenal ulcers. I think we should make a distinction between the acute, the subacute, and the chronic gastric and duodenal ulcers when we speak of ulcers. The acute and the subacute ulcers are essentially medical, and unless they be perforating ulcers or hemorrhaging ulcers they practically all respond to the proper medical care. The chronic ulcer, we all agree, needs surgical attention if it is persistent. I believe, however, we should give the patient more time than

two weeks to recover under treatment from even a chronic gastric or duodenal ulcer, because these ulcers have been existent for a considerable length of time in the first place; in the second place there are very few patients who ever get the proper treatment—I mean there are very few of them who carry out the full treatment, and thirdly there are very few physicians who go to the trouble of giving them full treatment. A little bismuth, a little soda, and a milk diet is about all they get in most instances. The gastroenterologist carries the treatment into detail, and if the general practitioner fails with such a case it should be referred to the proper authorities.

Another feature that I wish to bring out is this: that when an operation is done on an ulcer of the stomach or ulcer of the duodenum, medical treatment should follow up the operation for a sufficient time in order to remove the actual cause of the ulcer. The operation removes the ulcer, but rarely removes the cause.

Then when we have these chronic ulcers, we should not lose sight of the fact that we do have such a thing as syphilis of the stomach, and syphilis of the stomach does not need the same sort of treatment as peptic ulcer. We may have a syphilitic ulcer of the stomach; we may have syphilis simulating peptic ulcer; we may also have a gumma of the stomach, and some of these have been operated upon for cancer; we may have an interstitial condition of the stomach due to syphilis. Therefore, we must all advocate the use of the Kahn and Wassermann tests in all of these cases as routine matters.

I want to refer to one specific thing which is the only thing Dr. Johnson left out of his paper, and that is allergy. Do not attribute the idiosyncrasies to various foods until you have done a proper gastroenterologic examination. A distinguished member of this organization came to me from a prominent allergist with a long list of foods he could not eat because of his allergic reaction to these foods. Upon examination I found that he had an absolute achylia, a great big sacculated colon, and when these were treated the doctor was very happy to say that he could eat almost anything he wished to eat.

Dr. Crawford F. Barnett (Atlanta): It has been my privilege to hear many fine papers on gastroenterologic subjects, but never one to surpass the practical value of Dr. Johnson's paper. I am personally impressed by one diagnostic pitfall, and I say "personally" advisedly since I once possessed a kidney stone which closely simulated an acute gallbladder condition.

I wish particularly to confirm and emphasize Dr. Johnson's statement, "if the examination does not satisfactorily explain the symptoms, it should be extended and repeated until the whole truth is found." This statement offers the key to the diagnosis of gastric carcinoma at an operable stage. Do not pass over the small, unexplained symptoms: unexplained loss of weight, unexplained anemia, unexplained vague digestive disturbance, unexplained loss of appetite—these are symptoms of early operable gastric carcinoma.

It is almost unbelievable that in the United States in the past six years carcinoma of the stomach killed

145,000 people, while carcinoma of the uterus and breast together killed only 163,000. This appalling death rate from gastric carcinoma can only be controlled by emphasizing and persisting in the attempt to explain the apparently simple but unexplained symptoms. These patients deserve repeated x-ray study and gastroscopy.

Dr. James J. Clark (Atlanta): I had the opportunity of reviewing Dr. Johnson's paper and enjoyed his discussion of pitfalls very much indeed. There is one pitfall that I think medically we fall into every day, and certainly the laymen have also a misconception of the same problem, that is the evaluation of a recent x-ray examination. It is very common to hear doctors and patients both say, when we ask if the patient has any dental infection, "No, there was a complete x-ray of the teeth three or six months ago," which of course is absolutely worthless. The same thing is true about the gastro-intestinal tract. An x-ray examination today may completely hide something that will be very apparent tomorrow. That is particularly true in such things as esophageal diverticulum or diverticulum of the duodenum. Possibly on the first examination the pouches were filled either with gastric secretion or retained food, and at a later examination may disclose a large pouch which is giving the patient symptoms.

The same thing is true in gastric and duodenal ulcer. Sometimes these ulcer craters are filled up and they can't be seen, but the examination the next day, or two or three days later may bring them into view very readily. Certainly the radiologist should have the same opportunity to study the patient that the attending physician has. No physician tries to make a diagnosis seeing the patient once. He may see him two or three or a dozen times. The same privilege should be accorded a radiologist. If the first x-ray study is negative, it does no harm in a week or ten days and may give considerable help if the examination is repeated.

That is my idea of one of the valuable points in Dr. Johnson's paper—the re-examination of the negative patient, that is, the patient who shows negative findings on examination, but has positive clinical signs.

Dr. Trimble Johnson (Atlanta): I wish to thank the doctors for their very helpful and kind discussions. When I made the statement that the re-examination should start when an ulcer is not symptom-free in two weeks, I meant that of course relatively. The patient should be showing improvement enough to satisfy us that he is going somewhere.

To me food allergy is one of the hardest things that we run into, and I am not going to touch on it. I personally believe that the only way to find any high series of curable gastro-intestinal malignancies is just to x-ray every chronic case regardless of the complaint, because they don't give symptoms early.

The American College of Physicians will hold its twenty-third annual session in New Orleans, March 27-31, 1939. Dr. Wm. J. Kerr, San Francisco, will be general chairman of the scientific program.

Dr. John H. Musser, New Orleans, will be general chairman of the session and will be in charge of the program of clinics and demonstrations.

IS THE DEATH RATE FROM HEART DISEASE INCREASING?*

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What is the answer to this query? The literature on the subject is so voluminous and conflicting that it is difficult to correlate the evidence and arrive at the truth. There are several reasons for this ambiguity, as for instance, some authors show a proneness to pick certain age groups while others select different age groups and each attempts to make his conclusions, from his respective studies, cover the whole field of cardiac mortality.

Dublin and Armstrong¹ have shown that among certain policyholders in the Metropolitan Life Insurance Company there has been no increase in heart disease; furthermore, their studies warrant the inference that there has been a reduction in the number of cardiac deaths under 45 years of age. Cohn and Lingg² have concluded that the death rate from heart disease for those under 40 years of age has steadily declined since 1900. The conclusions reached by the Bolduans,³ from their studies of mortality in New York City, suggest that the increase in heart disease is largely fictitious, when considered in conjunction with apoplexy, disease of the arteries, nephritis and senility.

Albert⁴ in 1927 called attention to the fact that as a larger proportion of the population is living to middle age or beyond and from this period on degenerative diseases are inevitable, it naturally follows that the rate of heart deaths in this group increases.

Opposed to these conservative opinions stand a long array of articles, both lay and professional, that hold up to the public a totally different picture.

From these widely divergent opinions it will be my endeavor to show whether or not the mortality from heart disease is on the increase, and to this end, I shall in large measure use vital statistics drawn from three sources:

While the death rate has increased from 100.9 in 1927 to 169.4 in 1937, it has not been uniformly progressive, for in three out of the eleven years it declined, and it increased in eight. While these figures are for

the total population, the mortality rates for the negroes has been higher than for the whites each year, the average annual rate for the former being 189.8 and for the latter, 138.8.

First, Georgia: The figures used in this tabulation were taken from the official Bulletin of the State Board of Health.

| Year | Rate per 100,000 of population, both white and colored |
|-----------|--------------------------------------------------------------|
| 1927..... | 100.9 |
| 1928..... | 113.8 |
| 1929..... | 126.9 |
| 1930..... | 140.6 |
| 1931..... | 133.3 |
| 1932..... | 138.6 |
| 1933..... | 133.8 |
| 1934..... | 166.9 |
| 1935..... | 167.3 |
| 1936..... | 183.6 |
| 1937..... | 169.4 |

The statistics for Georgia, at my disposal, do not enable one to make a comparison between heart deaths, cerebral hemorrhage, diseases of the arteries and veins, chronic nephritis and senility.

Second, New York: All data appertaining to New York were obtained from the vital statistics of New York City, which were compiled by the New York Tuberculosis and Health Association.

MORTALITY RATES PER 1,000 OF POPULATION OF NEW YORK CITY

| | 1910 | 1935 |
|--------------------------------------|------|------|
| Heart Disease | 175 | 277 |
| Cerebral Hemorrhage | 20 | 54 |
| Diseases of Arteries and Veins | 44 | 16 |
| Nephritis | 102 | 55 |
| Senility | 7 | 0.3 |

The rate of deaths from heart disease increased 102 from 1910 to 1935, while for the same period the combined rates for the four other groups declined 47.7.

As has been stated, the death rate from heart disease increased from 175 in 1910 to 277 in 1935, these rates of increase were by no means constant as shown by the following figures:

In 1910, 175 deaths; 1918, 232; 1919, 200; 1924, 255; 1925, 248; 1927, 236; 1930, 224; 1932, 223; 1933, 218; 1934, 287; 1935, 277.

It may be noted from these figures that the rate of deaths from heart disease increased from 175 in 1910 to 277 in 1935, for six of these years it decreased and for four it increased.

*Read before the Medical Association of Georgia, Augusta, April 27, 1938.

The rate of cardiac deaths and deaths resulting from nephritis and diseases of the arteries and veins for the years 1934-35-36 suggest that the increase in cardiac deaths more than offsets the decline in nephritis and arteriovenous diseases as shown below.

Average death rate per 100,000 of population of the six buroughs of New York City.

| Year | Arteriovenous | | Total | Cardiac Diseases |
|------|---------------|----------|-------|------------------|
| | Nephritis | Diseases | | |
| 1934 | 63.8 | 63.0 | 126.8 | 290.8 |
| 1935 | 60.0 | 70.7 | 130.7 | 276.7 |
| 1936 | 56.8 | 64.7 | 121.5 | 309.7 |

The following table is a summary of the death from heart disease in New York City for the year 1935, arranged in certain periods beginning from the fifth year and continuing throughout the life of man:

| CHART 1 | | | | | |
|-------------------------|--------------------------------|-------------|------------|--------------------------------|-------------|
| MALES | | | FEMALES | | |
| | <i>Annual Deaths from H.D.</i> | <i>Rate</i> | | <i>Annual Deaths from H.D.</i> | <i>Rate</i> |
| From 5 to 14 years | | | | | |
| Rank No. 2 | 115 | 20 | Rank No. 1 | 129 | 23 |
| From 15 to 19 years | | | | | |
| Rank No. 2 | 91 | 29 | Rank No. 2 | 80 | 25 |
| From 20 to 24 years | | | | | |
| Rank No. 3 | 99 | 29 | Rank No. 3 | 108 | 29 |
| From 25 to 44 years | | | | | |
| Rank No. 2 | 1,096 | 83 | Rank No. 1 | 801 | 62 |
| From 45 to 59 years | | | | | |
| Rank No. 1 | 3,203 | 587 | Rank No. 1 | 1,881 | 364 |
| From 60 years and older | | | | | |
| Rank No. 1 | 5,915 | 2,560 | Rank No. 1 | 5,888 | 2,262 |
| All Ages | | | | | |
| Rank No. 1 | 10,543 | 293 | Rank No. 1 | 8,907 | 250 |

This chart portrays the 19,450 deaths from heart disease that occurred in New York City during the year 1935, together with the rank and rate of the seven arbitrary divisions of life for the entire group. In none of these periods does it rank lower than third as a cause of death, however, it is not until after the forty-fifth year of life that its impetus becomes so greatly accelerated.

Third, Eight geographic divisions of the United States.

Chart II is a comparison of two periods of time of four years each of cardiac deaths in 36 states grouped according to the Bureau of Census and the United States Public Health Service into eight sections of the country and subdivided into seven age groups. Only data for states included in the death registration area in 1922 were used and therefore Georgia was not included in this comparison. It is a

composite of figures used by Dr. C. C. Dauer in his study of "Mortality Rates of Organic Diseases of the Heart by Geographical Areas in the United States." These geographic divisions comprise the

New England States (Me., N. H., Mass., R. I., and Conn.);

Middle Atlantic (N. Y., N. J., and Penn.);

East North Central (Ohio, Ind., Ill., Mich., and Wis.);

West North Central (Minn., Mo., Neb., and Kan.);

South Atlantic (Del., Md., Va., N. C., S. C., and Fla.);

South Central (Ky., Tenn., Miss., and La.);

Mountain (Mont., Idaho, Wyoming, Col., and Utah);

Pacific Coast (Washington, Oregon and California).

The age groups in each of these geographic divisions are:

Under 5 yrs.: 5-9; 10-19; 20-29; 30-44; 45-64; over 65, with a summary of all ages which shows a slightly increased death rate in each geographic division.

The first vertical column of figures shows the rate of cardiac deaths from 1922 to 1925 and the second column shows the rate from 1926 to 1929. The comparative rate of cardiac mortality for each of these geographical centers may be seen by the directions of the lines in the vertical columns which illustrate in each geographic division a noticeable paralllism in each age group. The Middle Atlantic group has the highest death rate from birth through the sixty-fifth year and the South Central the lowest, but it should be borne in mind that only the white race is represented in this group and in the South Atlantic group (except Delaware)

where as the whole race is represented in the other divisions.

By observing the directions of the lines between these two periods of time, 1922-1925 and 1926-1929, the trend of the death rate for each age group will be apparent. Up to the age group, 30 to 44, there are slight fluctuations both up and down, but, in this group, there is a slight increase in each geographic division. This is more noticeable in the group, 45 to 64, while most of the increase occurs in the next group of over 65. The East North Central group shows the greatest increase in the mortality rate for all ages, for the four years, and the South Central, the lowest.

A summary is given for all ages for each geographic division together with the increased rate in each division and the total increase of rate for four years in the 36 states considered on this chart, which from these figures is 31.8 per 100,000, or an annual average increase of 7.95 per 100,000.

These figures represent a cross section of more than three-fourths of the total population of the United States and they do not indicate a material increase in the rate of deaths from heart disease before the sixty-fifth year, and as the length of life of man has increased $17\frac{1}{2}$ years in the last 36 years, it inevitably follows, as has been stated, that more are reaching middle age or beyond and as men must die, heart deaths must increase in this period.

Though this statistical study shows a slight increase in the rate of deaths from heart disease, it should be remembered that heart diseases result from diversified etiologies and until there is an improvement in the present official method of recording heart mortality, an accurate estimate of the rate is an impossibility.

The modern trend of signing death certificates based on etiology, promulgated by the Heart Committee of the New York Tuberculosis and Health Association, if universally adopted, would enable one to determine more accurately the truth by a study of vital statistics.

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DISCUSSION ON PAPER OF DR. S. T. R. REVELL

Dr. J. Reid Broderick (Savannah): Estimations of the incidence of heart disease, as brought out by Dr. Revell, vary from less than 1 per cent to several or more per cent. It has been estimated that one out of every six to seven deaths is of cardiac origin, although the accuracy of death certificates might at times be questioned. However, no less authority than Paul White says that heart disease has assumed greater and greater proportions in this part of the world, until now it leads all other causes of death, outstripping tuberculosis, pneumonia and malignant diseases.

This apparent or absolute increase may be due to more accurate diagnosis. The common use of the electrocardiograph now plays an important role in differential diagnosis, bringing to the surface many cases of coronary disease which heretofore had masqueraded as other illnesses.

With the improved control and decreased mortality of the infectious diseases, like tuberculosis and typhoid, etc., there is naturally a corresponding increased ratio of heart disease deaths. The decrease in youthful mortality from other diseases also permits patients to reach the age when degenerative changes occur, and hence another relative increase in cardiac deaths. Thus, it is to be expected if individuals are spared the diseases of youth, they will reach that span of life in which the degenerative circulatory changes of old age will kill.

With the increased tempo of the nation, I believe there is an actual and absolute increase in the death rate from heart disease, because with this increased tempo there will be more frequent emotional upsets; the chances of improper diet are greater with resulting insufficient intestinal and renal elimination; irregular and hurried hours of eating, with excesses of nicotine, coffee, tea and alcohol, to speed the individual on his long hours of nervous tension, with prolonged and excessive mental and physical effort in his ever pressing struggle for survival. Thus, the future social and financial status of our country will unquestionably influence the incidence of cardiac death.

With proper control, by diagnosis and treatment, of syphilitic infections, we might look for a decrease in circulatory syphilis.

Each community has its more obvious cause of heart disease, and if it is to be controlled, it is best to concentrate on the community's own problem. For example, our Negroes will always tend to show a high incidence of heart disease of the degenerative and syphilitic type, rather than the anginal type, for as Stewart Roberts has said, "The Negro cannot worry when he is standing up, and when he sits down, he falls asleep." Now, in the Northern climates, if the death rate from heart disease is to be lessened, it would seem that more time must be devoted to the study of the control of rheumatic fevers which cripple the young.

The present method of compiling heart disease mortality should be changed. It is misleading. Deaths from heart disease should be reported from the point of view of etiology. Heart disease should be diagnosed

as a cause of death only in those instances in which there is definite evidence of the disease as determined by the clinical course, history and laboratory evidence of established etiologic features, together with the evidence at autopsy of organic cardiac lesions.

The implication of the heart in cases of terminal congestive failure due to other causes is to be deplored. Coroners should be permitted greater latitude in ascribing deaths to natural or ill-defined causes when the facts do not permit greater exactness.

The diagnosis of death from heart disease should not be made without very definite and sufficient evidence. More especially does this apply to the signing of death certificates in cases of sudden natural death.

Dr. L. Minor Blackford (Atlanta): It is refreshing to hear the "increase" in heart disease questioned. In the Georgia State Health Department's exhibit, one learns that, while in 1900 the average age at death was 27.2, in 1936 it was 44.7; the mortality from diphtheria dropped from 37 per hundred thousand to 4, and typhoid from 71 to 6. We have got to die of something. Live long enough and, if nothing else goes wrong, your heart is going to stop. As a matter of fact, you never do die until your heart fails completely.

I think the lesson Dr. Revell offered and that Dr. Broderick has emphasized is that we need more accuracy in the diagnosis as to etiology. Rheumatic fever in Georgia is fortunately not common, although it does occur as we all know. If we used the knowledge we have now of the treatment of syphilis, we could eradicate syphilis as a cause of cardiac disease. I am afraid it will be some time before we can prevent degenerative diseases: when we understand what causes them, we should be more successful in postponing them a little longer.

Last month in addressing a gathering of doctors in another State I said that some of them would die of coronary disease, and one of them did within twenty-four hours: I am not going to take up coronary disease today.

Dr. Stewart R. Roberts (Atlanta): This is a very interesting question. I think we all appreciate Dr. Revell's having brought it up, and also the immense amount of labor he has put upon the paper.

I think Dr. Broderick's points about an etiologic diagnosis are most admirably taken, particularly his remarks that a diagnosis of death from heart disease should not be made unless the heart disease itself be a primary etiologic cause of heart death.

Dr. Blackford's remarks are very true. I have heard the great of many lands take both sides of the same question, as men doing general practice and internal medicine are apt to do, but last year in Atlanta we lost nine doctors out of a Fulton County membership of something over 400; seven of those nine died of primary etiologic organic coronary artery disease; five of the seven died of coronary occlusion; of the other two, one died of a perforated duodenal ulcer, and the other, Dr. Arch Avary, a Confederate veteran, and the last we shall ever have, died twenty-three days short of ninety years, of senility.

Dr. Blackford made a very wise remark when he said that the reason we have so little heart disease in the South is because we have so little rheumatic fever. That is true. Our average heart death rate in Georgia is only about 169 to 170 per 100,000. In New York State in 1933 it was 480 per 100,000. The average number of heart deaths in any state in this country equals or exceeds the combined deaths from cancer, tuberculosis, and pneumonia, (and we talk a great deal about pneumonia) and those are primary etiologic heart deaths.

In New York State in 1933, those 480 heart deaths per 100,000 population equaled the combined deaths from pneumonia, tuberculosis, cancer and accidents, including road accidents. I say deaths from road accidents, not the number of road accidents.

We have collected, over the last several years, about eighty cases of mitral stenosis, which of itself is usually primary evidence of the rheumatic heart, occurring and originating in the Southeast, chiefly in the State of Georgia. As Dr. Blackford wisely said, we have so few heart deaths in Georgia or in the Southeast because we have so little rheumatic fever, but we have, I think, a great deal more rheumatic fever than we know so far as the damage to the heart is concerned, and there is as much rheumatic fever in the mountains of North Georgia and the Great Smokies of Tennessee as there is in Massachusetts and New York. It is a question largely of altitude and of climate. In North Georgia the average doctor, I have remarked before, sees one case of rheumatic fever every year; in South Georgia one case of rheumatic fever about every two years, and in Florida one case of rheumatic fever every three to four years. I do not believe that one can drive as much as we doctors drive, attend as many meetings as we do, smoke as much as we do, struggle as much as we do—Dr. Broderick mentioned the eternal struggle for survival—without suffering results. As I have said before, the practice of medicine is a great deal harder on the heart than it is on the brain, and we may well call the coronary artery the doctor's artery.

Dr. S. T. R. Revell (Louisville): Dr. Roberts has said that the coronary artery is the doctor's artery. That is true. But what are we going to do about the coronary artery?

CORRECTION

The article entitled "The Family Doctor Versus Federal Medicine Socialized," which appeared under the name of J. C. Orr, M.D., Buford, Georgia, pages 158-159 of the April, 1938 issue of the *Journal*, should have been entitled "Family Doctor or Federal Agent" with the Medical Economics, Inc., as author and copyrighter, published by request of Dr. Orr.

The American Association of Railway Surgeons will hold its twenty-third annual meeting at the Palmer House, Chicago, September 19-23, 1938. Its members include surgeons associated with practically all important railway systems in the United States.

VESICULAR ERUPTIONS OF THE HANDS*

Report of Cases

PHILIP H. NIPPERT, M.D.

Atlanta

Vesicular eruptions of the hands is perhaps the most difficult group of skin diseases with which one has to deal. First of all because of the very close clinical resemblance of the diseases within this group and secondly because of the multiplicity of etiologic factors that come into play. Yet even though this be true, I am sure many of you have seen your efforts well repaid in an ever grateful patient with whom you have had success because you were able correctly to classify his disease etiologically. In contrast we have all seen a number of patients complaining of a recurring vesicular eruption on the hands that seems to defy all reasonable efforts.

Only those conditions commonly met with in private practice have been selected for discussion. Included in this group are the following:

1. Eruptions due to external irritants, i.e., dermatitis venenata, occupational dermatoses, etc.
2. Eruptions secondary to a primary fungus or bacterial focus, i.e., dermatophytid, moniliid and bacterid.
3. Eruptions due to superficial fungus and yeast infection.
4. Eruptions due to foods, drugs and the so-called neurogenous influence.

In reviewing this group of diseases in 1936, Wise and Wolf¹ have well said that their successful management is directly proportional to the accuracy of diagnosis and that the longer and more carefully one has studied such cases the more time will be required to arrive at a correct diagnosis in a given case.

With this in mind we shall direct our attention to the problems of differential diagnosis, including case histories and illustrations of each entity.

In the study of these cases it is best to have a well planned system of approach. First and

of the greatest importance is a well taken history, including:

1. The family history of allergy.
2. The patient's behavior relative to allergic diseases.
3. Any previous evidence of sensitivity to foods, drugs or external contact irritants.
4. Present occupation, previous occupation and any relation of either to onset of eruption.
5. A careful questioning as to the patient's hobbies.
6. The behavior of his eruptions when in different surroundings, as vacations, away from home, removal from work, etc.
7. Any seasonal variations.
8. The accurate date of onset in so far as this is reasonably possible.
9. Information as to whether the disease spreads by continuity or appears simultaneously on all areas affected.
10. A note of all previous local therapy, since this may have changed the character of the original disease.

Next in importance is a thorough examination, particularly of the feet, plantar surface, interdigital spaces and nails, for further evidence of skin disease. Always bear in mind that there may or may not be any correlation between the two: the mere finding of what on inspection appears to be a primary fungus infection on the feet, does not necessarily prove that the hand eruption is secondary.

After a careful history and examination one will have acquired an impression that will at least give a working diagnosis. Should the case suggest a diagnosis of dermatitis venenata the following procedures will be found helpful in either proving or disproving that impression:

1. Patch tests with suspected external irritants on the patient as well as on a normal person.
2. Complete removal of suspected external irritants when possible.
3. If the disease be occupational and the above procedures fail to demonstrate the cause, a short vacation from work is often advisable: if then the condition improves but promptly returns when work is resumed it is reasonable to assume that his occupation in some way affects his eruption. This has been called the exposure test.

*Read before the Medical Association of Georgia, Augusta, April 27, 1938.

4. Repeated search for fungi and monilia should be made to rule out a possible superficial mycotic infection.

If the hand eruption occurs simultaneously with, or follows, involvement of the feet a diagnosis of dermatophytid or moniliid may be suggested. Microscopic examination for fungi in the affected areas should be made, with the patient using a simple saline wet dressing for a few days. Further proof is the therapeutic test; that is, the improvement of the hands that often follows treatment of the primary focus on the feet. In long standing cases, however, this does not always follow, so that it is necessary to give additional treatment to the hands.

The diagnosis of bacterid is suggested when the eruption occurs on the palmar surface of the hands and plantar surface of the feet, the lesions being fairly characteristic milky white flat-topped vesico-pustules, occurring in crops with periods of exacerbation and remission independent of therapy. Local search for bacteria and fungi being negative, one should look for distant foci of infection in the teeth, tonsils, sinuses, prostate, etc.

The above having been successfully ruled out, there remains the group described by Pollitzer² under the title of recurrent eczematoid affections of the hands. The cause of these remains obscure and they should be treated symptomatically.

The following cases are cited as examples of the above entities:

Dermatitis Venenata (Occupational)

Case 1. Mr. S. M., a leather worker, for one year had had an eruption on the dorsa of both hands. He was completely well while away from work for 3 months, but suffered a prompt recurrence on return to work. Specific agents used in work could not be obtained for testing. He remains well while wearing gloves at work.

Case 2. Mr. W. A. F., garage employee for 2 years, complained of an eruption on his hands of 6 months' duration. The eruption had begun after a shipment of gasoline pumps arrived. It was always better in the morning and over week-ends. The eruption completely cleared up while he was away from work for 5 days. On the fifth day, 15 minutes after repairing a carburetor he noticed itching and 3 hours later a recurrence in the previously affected areas with additional involvement on the upper arms and trunk. The patient has since changed his occupation and all involved areas have cleared.

Case 3. A young housewife for one year had been annoyed with a recurring vesicular eruption on her

right hand. It had begun shortly after a new soap powder was used and it always returned in the same areas. There was no other evidence of skin disease. The suspected irritant was removed and with local applications the areas cleared and there has been no recurrence.

Case 4. An undergraduate nurse presented a vesicular eruption of the dorsum of each hand. This had begun shortly after she entered training 3 years earlier and had been continuous except for several months while on operating service. While under observation she developed erythematous-vesicular patches over both arms, back and face. Patch tests with many suspected irritants to date have been negative. She is now on vacation and writes that all areas on arms, face and back subsided in 3 days and the hand lesions in one week.

Case 5. A graduate nurse, for 5 days had had an eruption on her face and hands. Two days before onset a new face lotion had been used. She presented an erythematous-vesicular eruption of her face, and of the back of her hands. Patch test with the suspected irritant proved positive. Prompt improvement followed its removal.

Dermatophytosis of Feet, Dermatophytid of Hands

Case 6. A school teacher, aged 36, for eight years had had a recurring eruption on her hands and feet. The present attack was of 4 weeks' duration. She presented the typical scaling and maceration between the toes of both feet seen in dermatophytosis. On the dorsa of the hands were fairly well circumscribed erythematous-vesicular and squamous lesions with vesiculation along the sides of the fingers. The hands promptly improved following treatment of the feet.

Dermatophytosis of the Hand

Case 7. A grocery clerk presented a lesion on the dorsum of his right hand of 4 weeks' duration. He stated that it had begun following an abrasion and had gradually enlarged. The lesion was 4 cm. in diameter with an active vesicular border and clearing central area. Test for fungi was positive. The lesion responded readily to topical applications.

Recurrent Eczematoid Affection of Hands

Case 8. An office clerk for 5 years had had a recurrent eruption on dorsa of both hands, the most recent being of 3 months' duration. The eruption was worse when he was constipated and fatigued, and was aggravated by alcohol or coffee. There was no relation to occupation. The feet were not involved. Examination was negative for fungi. The eruption responded to symptomatic treatment.

Pustular Bacterid

Pustular bacterid, a newly recognized clinical entity³ described by Andrews,³ Niles⁴ and Ayers,⁵ is well illustrated in the following case:

Case 9. A seamstress for 6 months had had an eruption on her hands and feet, with periods of improvement and exacerbation independent of treatment. She presented a diffuse erythema of the palms and palmar surface of the fingers of both hands, covered with a great many discrete and coalescent vesicles and pustules with a sharp line of demarcation at the wrist. On the inner sides and extending over a portion of the plantar surface of both feet there was a similar eruption. The

only positive finding was a set of badly infected teeth. Repeated studies locally for bacteria and fungi were negative. The patient was advised to see her dentist and receive treatment according to his judgment. In addition I began local treatment as a case of dermatophytosis with all the accepted and effective methods of treatment including four quarter skin units of unfiltered x-ray, at weekly intervals. There was little or no demonstrable improvement. She was then advised to use boric acid ointment locally, primarily for the comfort it afforded her. Over a period of three weeks all of her teeth were extracted. It was interesting to note a marked flare-up of her eruption after each extraction. Three weeks after the last extraction her hands and feet were completely clear and had been so for several days. One week later, however, the condition recurred. I then told her that it would require a little time for the effect of the toxin from her focus of infection to subside, and advised her to report for observation. One year later, after having been to several other men for treatment, she returned and presented the same condition but a little less extensive than when first seen. Since she had had ample time to show clinical improvement following the removal of her focus of infection, treatment with a streptococcus globulin prepared by Dr. E. C. Rosenow at the Mayo Clinic was recommended. She was given this globulin, intramuscularly, in increasing doses twice weekly, for 20 doses. During these ten weeks all of the lesions subsided and she has remained entirely well for 5 months.

In conclusion an unequivocal diagnosis can often only be made after a long careful systematic study and by painstaking effort. One must, however, concede that many of these eruptions do respond in a measure and may apparently show clinical cure following the use of the accepted topical applications. Yet patients are also very keenly interested in remaining well and we believe will remain well only when the cause of their disease is discovered and eradicated.

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DISCUSSION ON PAPER OF DR. PHILIP H. NIPPERT

Dr. J. Malcolm Bazemore (New York): Dr. Nippert covered the subject very well and leaves very little to be said, but I wish to bring out a few points. One has to do with the history. It is very important to get a good history of all of these patients. Another thing to remember is that when you find an eruption on the hand, don't be too anxious to make a diagnosis without giving your patient a generalized examination, because you find other conditions in which you get eruptions of the hand, but also you usually get

lesions in other parts of the body. Erythema multiforme is one of these conditions that may occur on the hands and feet and may run into a classification of the bacterids. Syphilis also must be kept in mind. There are a number of conditions that occur in the spring and the fall in nervous individuals which I don't know what to call unless we call them a dyshidrosis, which would seem to be as good a name as any.

As to the sites of predilection of these conditions, I think it is always a good thing to keep in mind these things. In venenatum they have a tendency to occur on the backs of the hands, in dermatophytosis usually on the backs of the hands or on the palms, in the dermatophytides usually the eruption is on the sides of the fingers and in the palms, in the dyshidrosis on the sides of the fingers and to a lesser extent in the palms. The lesions of dyshidrosis have a tendency to range themselves in a certain pattern; the vesicles are pin point in size, occur on the backs of the hands, they are discrete on the backs of the hands; under the thick layer of the palms the vesicles may join together to form bullae. In venenatum they tend to be minute and very transient. In ring-worm infection they tend to be very large and make one feel that the condition extends through the skin; the vesicles tend to occur in a linear distribution, you see large and small vesicles more or less grouped together.

Erythema multiforme characteristically forms rings. Venenatum is usually scattered. The bacterids usually occur in plaques; sometimes you see psoriasiform scaling.

There is one other condition that has long been talked of called pustular psoriasis. In this condition the pustules are very large; they do not extend very high above the surface of the palms, but you usually find some psoriatic lesions in other parts of the body. There has been a great deal of discussion between different dermatologists as to pustular bacterids and pustular psoriasis. However, pustular psoriasis is, I think, a definite entity. In pustular bacterids, although you clear up the foci of infection, the condition doesn't go away; sometimes you see that they will disappear in about eight months. I remember one patient we had who did not clear up until eight months after the tonsils were removed. In other conditions there is a foci of infection and you are unable to clear them up, particularly in chronic sinusitis. By removing foci of infection you cannot say definitely that you have ruled out the possibility of pustular bacterids.

Dr. Herbert Alden (Atlanta): To begin with, I wish to congratulate Dr. Nippert on his courage as well as his obvious ability in tackling such a broad subject. Secondly, I want to congratulate him on his beautiful pictures illustrating these conditions.

Vesicular eruptions of the hands have always been a difficult problem for the dermatologist, difficult from a differential diagnostic standpoint as well as from a treatment standpoint. Many years ago they used to be classified under two diagnostic heads called generally pompholyx or dyshidrosis. Lately they have been divided broadly under the classification Dr. Nippert spoke of.

Personally it is very difficult for me to examine a vesicular eruption on a person's hands and determine whether it is a dermatophytosis, dermatitis venenata, or pustular bacterid. Sometimes it is difficult to get a satisfactory history out of the patient, making the diagnosis more complicated, unlike the heart disease which you have just heard about, it does not produce death, but it does make people highly uncomfortable and they certainly deserve a thorough examination with a view to relief. We should be careful about just looking at these things and saying, "Oh, well, you've got a little eruption from poison ivy probably: use this lotion and it will be all right." Many times if we would sit down and take a little time with these patients and discuss their condition with them, an immediate causative agent would occur to us and we would say, "Stop doing this or that and you will be all right."

The patients who we see are frequently very much over-treated. We all, I think, are prone to make a diagnosis and treat the diagnosis; if we would be a little more careful about treating the patient using soothing applications and not trying to treat a dermatophytosis just because we have made that diagnosis, but treating the individual lesion as we see it would be much better. It reminds me very much of an old sign we used to see on top of the piano in a barroom, "Don't shoot the piano player, he's doing the best he can." Do that about treating these hand conditions and I think you will get better results.

Dr. Howard Hailey (Atlanta): There is probably no other dermatologic condition which can give a patient more trouble than the vesicular eruptions of the hands. Anyone suffering from a severe attack of vesicular dermatitis is totally incapacitated.

Pustular bacterids, pompholyx, dysidrosis and "pustular psoriasis," I believe, are one and the same thing—eczema. All branches of medicine are afflicted with a "tyranny of words." Numerous names for different clinical manifestations of the same disease have contributed to the difficulties encountered in the study and practice of medicine.

It was impossible for Dr. Nippert to go into the therapy of this condition, or these conditions, in the allotted time. Sooner or later, patients with vesicular eruptions of the hands receive x-ray treatment. Judiciously used, x-ray treatment is unquestionably the most valuable palliative agent in our armamentarium. However, I wish to urge each physician who prescribes or administers x-rays to first secure a record of all previous treatments, if any, before giving x-ray to these patients. It is also the duty of the attending physician to instruct the patient who has received x-ray treatment to communicate with him and secure a record of x-rays administered before accepting treatment over the same areas from another physician. X-ray sequelae are usually as annoying and potentially more dangerous than the conditions under discussion. I have recently seen two patients who had to undergo amputation of fingers because of too much x-ray used in the treatment for recurrent vesicular eruptions of the hands. Assuming that those who administer x-rays have had adequate training—the only way we can prevent unfortunate results is to impress upon the pa-

tient the necessity of furnishing a record to the physician of any previous treatment. We must ever keep in mind the dangers of x-ray.

Dr. Nippert has given an excellent presentation of a difficult subject.

Dr. J. A. Redfearn (Albany): Possibly an internist doesn't have much right to discuss this question, but I do want to bring out a point that I think is of extreme value to many individuals. By accident about six years ago I cleared up a condition that had been present in the palms of my hands most of my life, a vesicular eruption which would occur under the skin with little reddened areas, petechial looking, hundreds and hundreds of them, developing in one to two days into hundreds of vesicles with straw-colored fluid. Then they would shed off leaving the skin so tender that I could hardly use my hands for a while, for instance I could not play golf at all without wearing gloves. During the past six years I have not been troubled at all, and can use my hands in a normal way as long as I follow a balanced diet and occasionally take a little alkali.

The truth is that I had a lumbago and could hardly get up and down. I was trying a little of everything, including alkalies. After taking large doses of alkali for a couple of days, the red spots disappeared. It had never occurred before, so I waited a while, and by and by they began to return and after waiting until some of them had reached the vesicular stage I took alkali, and I am not naming anybody's brand, though I took every one that we have detailed and wound up by taking soda, and soda was just as good as any, and they are all good.

A brother who lives in Miami, whose hands had given him more trouble than mine, wrote that he was taking x-ray treatments with little benefit, so I told him of my experience and asked him to request his physician to get the total acidity of his urine—for in a number of cases I found a total acidity above normal (the total acidity you recall is from 20 to 30). The skin lesions were relieved in a day or two by taking alkalies and prompt relief resulted for my brother. I think the patient who comes in and tells us he has an acid condition really has something worthy of study.

I knew one doctor who had the condition for a year and had been x-rayed so much that his fingernails were all coming off, and he came in with every finger tied up and said, "Doctor, do you know anything that will do this any good? I can't do obstetrics or anything else."

I said, "Well, I don't know, but I'll give you my experience so you can try it." Within two weeks his hands were normal in appearance and he was going about his usual work, but he had to wait for the nails to come off.

Perhaps this condition comes under the dyshidrosis group. I can't find any textbook on the skin that makes this clear. I want to bring to your attention and urge you to examine the urine for total acidity and correct that and I think you will find that many of these obscure conditions will clear up.

I have seen some epidermophytosis (ring-worm of the toes), in an acute condition in children who could

hardly walk, relieved with nothing but alkali when the total acidity was high. Of course the administration of alkalies is a temporary measure. Proper diet is of greatest importance. In brief, remember that acids come from protein, carbohydrates and fats mainly. The bases come from vegetables, fruits, milk and nuts. It naturally follows that meat and bread eaters who dislike vegetables, fruits and milk will show a diminished alkali reserve.

Dr. Philip H. Nippert (Atlanta): I repeat that the successful management of this group of diseases is directly proportional to the effort extended to determine their etiology.

TOXIC EXANTHEMA FOLLOWING PROLONGED ATABRINE ADMIN- ISTRATION AND RESEMBLING BRILL'S TYPHUS FEVER

Report of Case†

W. EDWARD STOREY, M.D.
Columbus

A 26-year-old white male, carnival worker, was admitted to the hospital with a tentative diagnosis of Brill's typhus fever. Two years previously he had had chills and fever with a blood smear positive for malarial parasites. A ten-day course of quinine had rendered him symptom-free and he remained so until one month before admittance at which time fever and headache, but no chills, developed. Because of the former attack of malarial fever, a physician in the town where his show was located prescribed Atabrine although the blood smear was reported as negative for parasites. He was told to take one tablet thrice daily for five days and then one tablet daily "for a few weeks" and to resume or increase it upon reappearance of any symptoms suggesting malarial fever. He recovered in a day or two and was without symptoms until five days before admittance. At that time he was taken with fever, severe ague, headache, constipation and lassitude. In accordance with previous instructions, he increased the daily dose of Atabrine from one to three tablets and 24 hours later a generalized body rash appeared. Dr. Henry Brooks of Buena Vista saw him once at that time and felt that, notwithstanding the history of malarial fever and extended Atabrine therapy, a sufficient resemblance to the early features of Brill's disease justified referring him for isolation and observation. Aside from those symptoms there had been no others, such as undue sweating, localized joint pains, cough, epistaxis, loose stools, or abdominal discomfort. The patient knew of no exposure to a similar case and his wife and child had been quite well all along.

The past history revealed previous good health except for the malarial fever; there had been no typhoid or scarlet fever and no diphtheria, allergic manifestations, operations or injuries. The family history indicated no cancer, diabetes, tuberculosis, nervous, or mental disease.

Upon physical examination a slender, muscular, young man was seen lying quietly in bed. He was rational, intelligent, and cooperative. Over the chest, abdomen, base of neck, shoulders, back, and all of the extremities (palms and soles excepted) there was an increased surface pinkness throughout which were scattered round or oval macules. These macules measured 3 to 10 mm. in diameter; they were red, discrete, and, here and there, tended to coalesce. They could be made to disappear with pressure and they showed no papulation, vesiculation, exfoliation, pustulation, or signs of capillary hemorrhage. There was no itching, burning, or tenderness. The body folds showed no more of these macules than other regions and none were found on the face, scalp, or mucous membranes. The conjunctivae were moderately injected but there was no icterus or other pigmentation. The body fluids, such as urine, perspiration, saliva, and tears were not discolored. Upon admittance the temperature was 101.2° F. and the pulse rate was 104 per minute, regular and of good volume. The tongue was clean, protruded in the middle without tremor and its papillae were normal. The lungs were clear throughout; the P.M.I. was 8 cm. from the midline at the left 5th. I.S.; B.P. was 126/84 in the right arm and there were no heart murmurs. Abdominal examination showed no tenderness, spasm, mass, or fluid and the liver, spleen, and kidneys were not palpable. There was no spinal defect, and no cervical, axillary, or inguinal nodes were felt. The extremities presented no edema and all tendon reflexes were elicited and found equal according to pairs. Rectal examination disclosed no evidence of disease.

The laboratory reported a faint trace of urinary albumin but no bile, increased urobilinogen, or other abnormality. The red cell count was 4,380,000 with no unusual cells; hemoglobin was 80 per cent; W.B.C. 13,000; polynuclear neutrophils 85 per cent, lymphocytes 13 per cent, and mononuclears 2 per cent. Wassermann and Kahn tests on the blood were negative and blood smears examined at both the hospital laboratory and the laboratory of the State Department of Health were reported negative for malarial parasites. The Weil-Felix agglutination test was negative on the 5th and 7th days of illness (4th and 6th days of the rash) in the hospital laboratory and on the 9th day after onset at the laboratory of the State Department of Health. Agglutination tests for typhoid, paratyphoid, and undulant fevers as well as tularemia were also negative.

At the end of 24 hours' hospitalization, the temperature had dropped once to 98° F. and risen again to 101.4° F. with a pulse rate of 96 per minute. On the possibility that the eruption might be due to Atabrine, this drug was withdrawn. Acetylsalicylic acid 10 grains for headache, and phenobarbital ½ grain at bedtime were continued. Within 12 hours a fading of the eruption was noticed; at the end of 36 hours it was barely visible and at four days it was entirely gone. He was discharged symptom-free on the third hospital day with instructions to take quinine 10 grains at bedtime for 90 days. He did this faithfully and a report from him eight months later indicated no recurrence of the malarial symptoms.

*Case Records of the Columbus City Hospital, Columbus.

Comment

This case is instructive because (1) For the following reasons atabrine is believed to have caused a toxic exanthema in this case: (a) the patient took the drug daily over a period of a month which is longer than is recommended by manufacturers and authorities; (b) he took no other medication prior to the onset of the eruption; (c) the eruption appeared within twenty-four hours after increasing the dose of atabrine and together with the other symptoms it disappeared promptly upon withdrawal; (d) certain other drugs (acetylsalicylic acid and phenobarbital) were not withdrawn, yet the eruption disappeared; (e) an eruption is no part of malarial fever; (f) no other cause for the eruption could be discovered.

(2) In this case the character and distribution of the eruption together with certain associated constitutional symptoms resembled Brill's typhus fever sufficiently to suggest that diagnosis.

(3) This type of toxic manifestation differs from that of reports which have come to the author's attention and that of another case observed in the wards of the Columbus City Hospital where a lemon-colored pigmentation of the entire skin of the body but not the umcus membranes was the principle feature and the one which enabled us at a glance to exclude jaundice from whatever cause.

(4) In this case atabrine had no depressing effect upon the total white cell count or upon the polynuclear neutrophile percentage and no evidence of liver, kidney, or central nervous system damage could be found.

(5) The occasional meeting with a sensitive patient or an instance of overdosage is no contraindication to the cautious use of an otherwise valuable drug.

(6) It is a needless risk to give any patient a supply of a relatively new drug without at the same time giving exact instructions as to dosage, length of usage, and caution to discontinue it at the first sign of skin eruption, discoloration, or other untoward symptom.

511 Swift Bldg.

The Army Medical Library at Washington is now claimed to be the largest medical library in the world. It contains nearly 500,000 books on medical subjects and with pamphlets, theses, and other manuscripts, its collection numbers over 1,000,000 volumes.

PRESENT DAY CONCEPTS IN THE
TREATMENT OF MALARIA

ROY A. HILL, M.D.
Thomasville

The requirements which the ideal anti-malarial drug should fulfill have been outlined and presented to us in a variety of forms. Among these have been the elaboration of the shortcomings of all our present day methods of treatment. From an academic standpoint all of these proved interesting, but contributed little of practical value to the physician who treats malaria. The criticisms, for the most part, are not based upon effect in individual or type cases, but rather tend to disfavor a method of treatment.

In consideration of malaria therapeutics it should be borne in mind that we are dealing with at least three distinct disease entities, i.e., three species of plasmodia, each of which is manifest by a variety of symptoms. Thus each case, as well as each locality, has its own particular problems and possibilities of treatment. Since it is now a well-established fact that drug-fast cases and possibly drug fast strains occur, the intelligent treatment is rendered even more difficult. Contraindication of drug therapy in these types of cases is not to be implied. However, detailed consideration and careful study is necessary in such situations. The present widespread use of drug prophylaxis in certain areas has made imperative the routine data as to previous medication. Another factor of importance is the possibility of drug idiosyncrasy in which that particular drug is contraindicated. Very recent administration of drugs often obscures diagnosis of malaria in that the parasites are not demonstrable in the peripheral circulation and without this type of confirmatory evidence it is my opinion that malaria treatment is never indicated.

In making the above statements two rather important considerations have been made contradictory. The first is the contention of many physicians that shorter periods of treatment and the decreased severity of symptoms are the direct results of early treatment of malaria. Very often clinical symptoms and physical examination are indicative of malaria before the parasites are demonstrable in

the peripheral circulation. In such cases anti-malarial treatment is often given on the assumption that no harm will be done even though no beneficial results are effected in the event that the final diagnosis is not one of the malarial fevers. The other contention suggests that malaria treatment should be delayed for a time after the diagnosis has been made in order that some degree of immunity may be created by the infected person. It has been definitely shown that the administration of anti-malarial drugs during the primary attack precludes any effort in creating such an immunity. No attempt is made to indicate the practicability or the plausibility of either of these two measures. They are merely indicated and the use of either must be determined for the individual case. The same is true of the choice of drugs in the consideration of previous drug medication.

Regardless of which method the physician cares to follow after choosing one of these two fundamental initial considerations, the next step is identical. That is, complete bed rest, mild stimulants, and a light diet until symptoms have been alleviated. The diet should be as nutritious as possible to avoid the anemia which so often is an effect of malaria. Colonel Charles F. Craig has indicated that the treatment of malaria must be symptomatic and general as well as specific. This is of recognizable significance and, as a general form of treatment, should assume a prominent place in the mind of every physician when called upon to treat malaria.

It has been stated that the curative dose of a malarial drug may be given without confining the infected individual to his bed. This belief has been widely published as an advantageous property of certain drugs. The wisdom of this procedure is doubtful as ambulatory patients do not respond well to specific therapy. At least an effort should be made to determine whether or not this procedure is justifiable in view of the complications which might arise. In my opinion the administration of treatment is never indicated until the diagnosis has been confirmed by laboratory methods, and absolute confinement to the bed is essential during the administration of specific therapy. After the active symptoms have been definitely alleviated, ac-

tivity is permissible for the duration of the treatment. It is evident, however, that regardless of how much emphasis may be placed on these points, numerous physicians will continue to treat ambulatory cases of clinically diagnosed malaria. The reasons for this are obvious to most physicians in rural districts; i.e., if laboratory facilities are not at hand, a specimen must be sent some distance to a reputable laboratory. This procedure entails a delay of a day or two and, as a result, possible discontent on the part of the patient. In view of the fact that we are disposed to think of malarial manifestations as clear-cut and characteristic, the risk of being placed in such a position does not appear justifiable. Practically the same situation would be encountered if treatment was delayed to allow immunity to develop.

To discuss specific therapy would incur encroachment upon a rather controversial subject. It also is a matter which can better be determined after a careful review of the comparative values of the accepted therapeutic measures as applied to the type of infections existing in a given locality. In my opinion the kind and form of parasite should be determined before treatment is instituted. The clinical stage of the disease and the ability of the host to withstand infection are also instrumental factors in the determining of the kind and quantity of each drug. It should be borne in mind that, in consideration of experimental therapeutics in malaria, all factors pertaining to the distribution and etiology of the disease should be taken into consideration.

It is entirely possible that all malaria deaths are preventable. There can be only two possibilities, if this is true. First, the physician is inaccessible and the indicated treatment cannot be applied. The other is that intelligent and conscientious consideration has not been given the case. With the appropriate dealing with both of these factors our malaria deaths will be greatly reduced, if not entirely eliminated.

The American Public Health Association will hold its sixty-seventh annual meeting in Kansas City, Mo., October 25-28, 1938. The central theme in the program will be "Public Health in the World Tomorrow." Its membership numbers nearly 6,000. Winners in the city health contest, syphilis control test, and rural health conservation contest have been announced.

INTRACUTANEOUS TEST FOR* CHANCROIDAL INFECTION

A Comparison of Antigens

PART II

ROBERT B. GREENBLATT, M.D.
EVERETT S. SANDERSON, M.D.
Augusta

We have isolated twenty-one strains of the Ducrey bacillus from unruptured buboes, sixteen of which were in pure culture. A number of these have been made up into bacillary antigens. The question arose as to the anti-

genicity of various strains. Accordingly several chancroid patients were skin tested with chancroidal antigens each made from a different strain. The data in Chart I wherein consistently uniform results were obtained with antigens made from different strains indicate that the Ducrey bacillus is very homogenous in antigenic structure.

We have collaborated with Lederle Laboratories, Inc., with the hope that a Ducrey vaccine may be made generally available to the physician. After some preliminary difficulties, they have achieved a standardized product. A comparative study of their experimental preparations with our own bacillary antigen as well as with the European Dmelcos indicate similarly uniform and specific reactions. This is clearly shown in Chart II.

Summary

The various strains of Ducrey bacillus isolated at the University of Georgia School of Medicine were shown to have homogenous antigenic structure. An experimental Ducrey vaccine recently prepared by an American biologic company gave skin reactions comparable to that of European Dmelcos as well as our own bacillary antigen.

CHART I

COMPARATIVE SKIN TESTS WITH VARIOUS STRAINS
OF U. OF GA. ANTIGENS

| Strain | Case 1 c.f. 22 | | Case 2 w.m. 40 | | Case 3 w.m. 31 | |
|------------------|-------------------|----|-------------------|----|-------------------|----|
| U. of Ga. no. | I | E | I | E | I | E |
| 36 | 5 | 20 | 9 | 12 | 10 | 12 |
| 37 | 3 | 20 | 7 | 21 | 8 | 14 |
| 38 | 3 | 22 | 7 | 14 | 8 | 18 |
| 39 | 5 | 24 | 10 | 20 | 10 | 30 |
| 40 | 4 | 20 | 8 | 20 | 10 | 18 |

I—Induration.

Fig. in mm.

E—Erythema

Readings at 48 hrs.

Cases 1, 2, 3—proved chancroid patients.

CHART II

COMPARATIVE SKIN TESTS SIMULTANEOUSLY PERFORMED WITH AN EXPERIMENTAL AMERICAN COMMERCIAL PRODUCT, UNIVERSITY OF GEORGIA ANTIGEN AND DMELCOS.

| Case | Experimental Ducrey Vaccine | | | | | | | | | | U. of Ga. I E | Dmelcos I E | |
|----------|-----------------------------|---|---------|---|---------|---|---------|---|---------|---|------------------|----------------|---------|
| | 13H41i | | 13H44ii | | 13H45ii | | 13H47i | | 13H47ii | | | | |
| | I | E | I | E | I | E | I | E | I | E | | | |
| 1. w m | 7 - 15 | | 8 - 12 | | 12 - 15 | | 7 - 14 | | 7 - 12 | | | | 9 - 14 |
| 2. w f | 7 - 25 | | 6 - 8 | | 7 - 25 | | 7 - 25 | | 7 - 25 | | | | 7 - 14 |
| 3. w m | 10 - 25 | | 9 - 15 | | 9 - 15 | | 9 - 15 | | 9 - 15 | | 8 - 20 | | 10 - 25 |
| 4. c f | 7 - 15 | | 7 - 8 | | 9 - 15 | | 7 - 20 | | 8 - 18 | | 7 - 18 | | 7 - 13 |
| 5. c f | 7 - 25 | | 7 - 15 | | 7 - 20 | | 10 - 25 | | 8 - 20 | | 8 - 25 | | 8 - 20 |
| 6. w f | 7 - 14 | | 6 - 13 | | 8 - 15 | | 10 - 18 | | 9 - 16 | | 7 - 14 | | |
| 7. c f | 8 - 12 | | 8 - 15 | | 8 - 15 | | 8 - 19 | | 8 - 14 | | 12 - 18 | | |
| Controls | | | | | | | | | | | | | |
| 8. w f | 1 - 1 | | 1 - 2 | | 1 - 2 | | 1 - 2 | | 1 - 2 | | 1 - 1 | | 2 - 2 |
| 9. w f | 4 - 4 | | 3 - 4 | | 2 - 5 | | 3 - 4 | | 3 - 4 | | 2 - 4 | | 2 - 4 |
| 10. w f | 0 - 1 | | 2 - 2 | | 1 - 1 | | 0 - 2 | | 0 - 2 | | 0 - 1 | | 1 - 1 |
| 11. c f | 4 - 8 | | 4 - 4 | | 4 - 4 | | 4 - 7 | | 4 - 7 | | 2 - 2 | | 2 - 4 |
| 12. c f | 3 - 5 | | 3 - 4 | | 3 - 6 | | 4 - 6 | | 4 - 6 | | 4 - 6 | | 4 - 6 |

I—Induration.

Fig. in mm.

E—Erythema.

Readings at 48 hrs.

Experimental Ducrey vaccine 13H41i, 44ii, 45ii, 47i, 47ii were prepared by Lederle Laboratories, Inc., N. Y.

*From the Departments of Pathology, Gynecology, Bacteriology, and Public Health, University of Georgia School of Medicine, Augusta.

NICOTINIC ACID IN THE PREVENTION AND TREATMENT OF PELLAGRA

V. P. SYDENSTRICKER, M.D.

Augusta

Since Elvehjem¹ and his associates in September of last year reported the efficacy of nicotinic acid derived from the "filtrate fraction" of liver extract in curing canine black tongue, much interest has been shown in the application of this discovery to the treatment and prevention of pellagra. Within three months after the publication of Elvehjem's observations successful treatment of human pellagra with nicotinic acid was reported from three different clinics^{2,3,4} and during the current year many patients have been treated in widely separated localities. Practically all cases were observed under strict experimental conditions, the patients being maintained on diets known to be pellagra-producing for variable periods, then given nicotinic acid orally or parenterally. Adequate doses of nicotinic acid, however administered, cause dramatic healing of the mucosal lesions of pellagra. Glossitis, stomatitis and diarrhea disappear in from 24 to 72 hours. Dermatitis heals somewhat more slowly than under liver extract therapy, mental symptoms clear as rapidly as under any other form of treatment; but neuritis is not benefited by nicotinic acid and vitamin B₁ must be added for cure.

The dose of nicotinic acid and the method of administration have varied widely in the hands of different observers; the amount necessary for cure seems least when intravenous injection is employed, Smith, Ruffin and Smith³ saw cure with as little as 60 mg. daily, given intravenously. When the oral route is employed as much as 1,500 mg. daily may be necessary. Spies^{4,5} used 600 mg. daily, given in six doses of 100 mg. each hour for 6 hours for 3 days. This method has been highly successful in the hands of other observers; during the second day of treatment glossitis and stomatitis disappear, diarrhea is checked and appetite returns. The healing of dermatitis may be delayed for as long as 7 to 10 days but mental symptoms usually im-

prove rapidly, sometimes dramatically during the first days of treatment. Since it seems likely that nicotinic acid is rapidly excreted it is necessary to keep patients on a maintenance dose after the period of active treatment. It is not yet possible to state what such a dose is; it must be determined for the individual, some persons kept on pellagra-producing diet continue to improve on as little as 50 mg. daily, others require as much as 600 mg. daily over long periods of time. It seems probable that certain individuals are not able to store an appreciable amount of nicotinic acid and must be given large amounts constantly. The great majority of some 75 pellagrins observed during the past ten months in a Southern clinic have been well maintained on a daily dose of 100 mg. daily given in amounts of 25 mg. four times a day. Naturally the diet available is a major factor in determining the maintenance dose; where the diet can be made reasonably adequate the amount of nicotinic acid necessary to prevent relapse can be reduced to 50 mg. daily. When patients are kept on inadequate diet and nicotinic acid is withheld, relapse occurs as rapidly and is quite as serious as after other types of therapy.

For prevention of relapse in chronic pellagrins showing symptoms and signs of recrudescence of the disease fairly large amounts of nicotinic acid are necessary. Schmidt and Sydenstricker⁶ saw definite recurrence of pellagra in 5 of a group of 16 chronic cases who were given 100 mg. twice a week and only one of the group improved while under treatment. Other studies would indicate that daily ingestion of 50 to 100 mg. is entirely effective in preventing relapse. It seems certain that preventive dosage must be adjusted to the individual and that the diet available is the chief determining factor. In the control group observed by Schmidt and Sydenstricker, 90 Gm. of brewers yeast daily gave much better results than the amount of nicotinic acid used. Here the effect of the vitamin B₁, and possibly of riboflavine, must be considered and the actual food value of the yeast is not a negligible factor. The best results in prevention have been with "subcurative" doses of yeast and nicotinic acid given together; this method has the advantage of

avoiding the undesirable effects of both substances.

The side effects of nicotinic acid must be mentioned. When taken orally amounts over 50 mg. are apt to cause acute peripheral vasodilation with itching of the skin, tingling and burning of the palms and soles which may at times be actually painful, salivation and, occasionally, nausea. Arteriosclerotic patients occasionally complain of dyspnea and substernal pain. Blood pressure is slightly lowered and the heart rate may be increased as much as 20 per minute. The pharmacology of the drug has not yet been adequately investigated. Given intravenously the symptoms noted occur when 15 to 20 mg. are injected rapidly, if the rate of injection is such that not more than 5 mg. per minute are introduced, no distress is produced. Negroes seem much less apt to have subjective disturbance than white patients. Many patients show marked increase in appetite under nicotinic acid therapy, others are nauseated by it and in some instances oral administration has been abandoned on account of nausea.

From available information it seems highly probable that nicotinic acid is the "pellagra-preventive" substance of Goldberger, but that it is a specific for the syndrome of human pellagra is questionable. The great majority of patients with pellagra probably suffer from multiple dietary deficiency and while nicotinic acid does produce dramatic cure in acute pellagra there is definite danger in depending on it to maintain pellagrins over any considerable period of time unless other necessary dietary accessories are supplied. Until more is known about this substance it would seem wise to suggest that it be given in amounts of 50 to 100 mg. daily in conjunction with 30 to 50 Gm. of brewers yeast as a preventive of relapse in known pellagrins. In severe acute pellagra 100 mg. given each hour for 6 doses on 3 successive days is apt to cause spectacular improvement; thereafter 25 mg. 4 times daily will probably prevent relapse. If it seems desirable to give the drug intravenously, 75 to 100 mg. dissolved in 500 to 1,000 cc. of physiologic saline solution or 10 per cent glucose solution may be used daily until the patients condition warrants oral treatment. If peripheral neuritis is present crystalline vitamin B₁ should

be used to supplement nicotinic acid therapy. In any case the early institution of a high vitamin, high protein diet is desirable and even necessary and the use of large amounts of yeast should not be neglected.

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THE SAN FRANCISCO SESSION OF THE AMERICAN MEDICAL ASSOCIATION

Protected as it were from the restless waves of the Pacific by stately Mount Tamalpais rising abruptly some four thousand feet from the sea lies the beautiful city of San Francisco. There the American Medical Association has just concluded another memorable session, returning to the City of Saint Francis for its 89th annual meeting, after a lapse of fifteen years. During that period many advances have been made looking to the protection of the health of the American people and the preservation of a high quality of medical care. The membership of the Association has grown from 88,519 to 109,435, the largest enrollment in its history. In that period Hygeia was established, postgraduate medical education developed, new bureaus and councils set up, and new special journals published. These simple facts tell the story of progress. But let none take for granted that our growth has evolved out of wistful dreaming. That the Association today has the largest membership in its history, is implemented by new councils and bureaus and constantly alert to the needs of its members, and the public as well, indicates that our leadership has not been characterized by "stand-patism" but rather intelligently responsive to the demands which the new problems of our changing civilization make upon us.

In this connection it is interesting to observe that at the session of the House of Delegates in San Francisco in 1923, fears of socialized medicine were voiced—fears which have grown apace—so that now our parent body and its constituent units are engaged in a nation-wide effort seeking to successfully maintain, in the name of good medicine for our people, a successful campaign against a system of government dominated medical care.

The issue of medical care under governmental sponsorship for certain groups of our population was again brought to the House

of Delegates through a communication prepared by Miss Josephine Roche, Chairman of the President's Committee to Coordinate Health and Welfare activities. Her paper contained a mass of evidence indicating a need for expansion for maternal and child health services and for more comprehensive public health services. It was contended that more ample facilities are needed for the care of tuberculosis, venereal diseases, pneumonia, malaria, cancer, diabetes, diseases of the heart, blood vessels and kidneys; mental diseases and deficiencies, and industrial hazards. She reiterated a fact too obvious to require proof to the effect that *with poverty goes a higher rate of sickness and a deficiency of medical care*. She presented information, based upon public health surveys, upon which she concluded that the indigent and low income groups are in need of a national health program to be devised and applied through the cooperation of the government, the American Medical Association, and the interested public. A conference to include representatives of the many groups involved is to be held in Washington, D. C., during the latter part of July, "to examine the health problems in all their major aspects and to discuss ways and means of dealing with these problems." Continuing, she said, "*No one formula or program can possibly be found adequate to meet the varied needs*. We believe that providing an opportunity for an interchange of views between representatives of the medical and other professions, of various agencies, and of the general public, the National Health Conference will dissipate misunderstandings and work toward a meeting of minds on the beginning of a coordinated National Health Program." Another significant statement was to the effect that concerted public action for such a program is inevitable if the human need is to be met. Miss Roche added: "One-third of our people are not going indefinitely to remain ill fed, ill housed, ill cared for in sickness. Already they are on the march and the only question which remains is whether highly specialized groups, experienced and trained in ways and means of meeting human needs, are going courageously and quickly to offer all they can give in constructive and progressive leadership and help in the meeting of the vast human problems of today." She concluded with the somewhat dramatic statement, "That is the question which we submit to you today, the question we shall ask of our conference, must go on asking until we find the answer."

The Association's reply to Miss Roche's communication, through its reference committee, unanimously concurred in by the House of Delegates, was in the nature of a counter-question, registering the profession's

belief, as to whether the solution of the economic factor responsible for the underprivileged status of these groups would not only provide the means through which they could obtain the needed services from the private practitioner of medicine, but likewise measurably reduce the incidence of sickness among these groups.

In response to a request of the House of Delegates of THE MEDICAL ASSOCIATION OF GEORGIA, a resolution concerning the movie film titled, "The Birth of a Baby," was introduced and referred to the Committee on Executive Session. The question raised sought to have an expression from the House of Delegates bearing upon "the conditions surrounding the production, release, and propagandizing of the picture," and whether these were in consonance with the ethical policies of the House of Delegates of the American Medical Association. The committee's report, concurred in by the House, was to the effect that the film was of unquestioned educational value, but could be shown only in the theaters of a county after approval of the county medical society in which exhibition is proposed. The committee further recommended that admissions be limited to adults. Blanket approval in a state cannot be granted by the house of delegates of a state medical association.

Under an amendment to the constitution and by-laws approved at the 1937 meeting in Atlantic City establishing a committee on Distinguished Service Awards, the House balloted at San Francisco for the conferring of the first of these awards. On the first ballot Dr. Rudolph Matas of New Orleans was nominated and received the medal in absentia at the general opening session of the Association Tuesday.

Lack of space forbids reference to a number of matters dealing with the preservation of the prerogatives of the private practitioner of medicine and with the adaptation of the machinery of the Association to meet the changing economic and social needs of our time. The full proceedings of the House of Delegates were published in the July 2nd issue of the *Journal of the American Medical Association* and it is earnestly requested that all members of our Association make a critical study of them.

Among actions taken were the acceptance of a report from a joint committee named to consider several resolutions demanding a new set-up in Association publicity. The committee reported all resolutions unsatisfactory, but took occasion to tell the board of trustees and Dr. Morris Fishbein, "spokesman of the medical profession," that vigor combined with finesse are desired.

Went on record as vigorously opposed to a Federal Department of Public Welfare, such as would have been created in the reorganization bill and reiterated demands for creation of a Federal Department of Public Health with cabinet rating. The cabinet officer must, of course, be a medical man.

Recommended rigid visual standards to be adopted by states for granting of automobile drivers' licenses.

Reaffirmed a declaration that the Association is the only body qualified to speak for the medical profession and urged members who are affiliated with other societies to work for closer cooperation.

Referred to committee a resolution which would ask legislation to legalize birth-control advice.

Went on record as opposing all legislation which would restrict animal experimentation.

Recommended studies to establish a legally accepted sobriety test.

Thanked Congress for authorizing a United States Army Museum and Library, and urged Congress to hasten an appropriation for its construction.

Adopted a resolution condemning the bombing of hospitals, ambulances and helpless civilians by any nation.

Provided for a study by the Bureau of Medical Economics of the necessity for ethical qualities of and guiding principles to be observed, when and if constituent associations adopt fee schedules.

Recommended that constituent state medical associations be advised to take such action as may be necessary to procure medical memberships on compensation commissions and industrial boards.

At the concluding session the following officers were elected:

President-Elect—Dr. Rock Sleyster, Wauwatosa, Wis.

Vice-President — Dr. Howard Morrow, San Francisco, Cal.

Secretary and General Manager—Dr. Olin West, Chicago, Ill.

Treasurer—Dr. Herman Kretschmer, Chicago, Ill.

Speaker of House of Delegates—Dr. H. H. Shoulders, Nashville, Tenn.

Vice-Speaker, House of Delegates—Dr. R. W. Fouts, Omaha, Neb.

Board of Trustees—Dr. Austin A. Hayden, Chicago, Ill., and Dr. Charles B. Wright, Minneapolis, Minn.

Member of Judicial Council—Dr. John H. O'Shea, Spokane, Wash.

Member Council Medical Education and Hospitals—Dr. Frank Lahey, Boston, Mass.

Council on Scientific Assembly—Dr. James Edgar Paullin, Atlanta, Ga.

Dr. Irvin Abell of Louisville, Ky., Presi-

dent-Elect 1938, succeeded to the Presidency.

Meeting places were selected as follows: 1939, St. Louis, Mo.; 1940, New York City, N. Y.; 1941, Cleveland, O.

The attendance, due to the distance of the host city from the populous eastern seaboard, was considerably less than the record-breaking registration of near ten thousand at Atlantic City last year, but nevertheless reached a figure in the neighborhood of 6,100.

Registered from Georgia were thirty-two, as follows:

Bartholomew, R. A., Atlanta.

Boland, Frank K., Atlanta.

Bunce, Allen H., Atlanta.

Chason, Gordon, Bainbridge.

Chason, Thomas, Donalsonville.

Coker, Grady N., Canton.

Elkin, Daniel C., Atlanta.

Erickson, Mary J., Thomasville.

Faggart, G. H., Savannah.

Fancher, J. K., Atlanta.

Ferguson, C. H., Thomasville.

Fincher, Ed. F., Atlanta.

Giddings, Glenville, Atlanta.

Holmes, Champ, Atlanta.

Jones, Jack W., Atlanta.

Kracke, Roy R., Emory University.

Lake, Wm. F., Atlanta.

Morrison, Arthur A., Savannah.

Myers, Wm. H., Savannah.

Newberry, R. E., Atlanta.

Norris, Jack C., Atlanta.

Parham, L. G., Atlanta.

Paullin, James E., Atlanta.

Pruitt, Marion C., Atlanta.

Roberts, Chas. W., Atlanta.

Sauls, H. C., Atlanta.

Shanks, Edgar D., Atlanta.

Swanson, Florence L., Decatur.

Teem, Martin Van B., Marietta.

Torpin, Richard, Augusta.

Treusch, Herbert L., Atlanta.

Weaver, Olin H., Macon.

The scientific and commercial exhibits attracted their usual high interest. The scientific sessions were attended by large and enthusiastic audiences, at times overrunning the assembly rooms.

An innovation this year which created wide, favorable comment was a large hall exhibiting arts, crafts and hobbies of American physicians. Our own colleague, Dr. H. L. Treusch, of Atlanta, was a member of the committee charged with the collection and arranging of these exhibits and himself contributed an outstanding painting, titled "The Judge's Daughter." A bust of Crawford Williamson Long, by Dr. George Noble, Jr., of Atlanta, also received much favorable comment.

C. W. ROBERTS, M.D.

THE PRESIDENT'S PAGE

SUMMER MEETINGS

The annual meeting of the Chattahoochee Valley Medical Association at Radium Springs, July 12-14, was well attended by physicians from three states — Alabama, Florida and Georgia. The program was filled with excellent scientific papers, and time was provided for the interchange of ideas, both old and new. This mid-summer meeting fills a much needed period for medical and surgical discussion, and brings together the physicians of neighboring states at one of the South's most beautiful springs. More physicians should be encouraged to attend this meeting.

The W. J. Love memorial address by Dr. J. G. Lyerly of Jacksonville was an honor well paid to the memory of the distinguished founder of the Chattahoochee Valley Medical Association, now in its thirty-ninth year.

The Association's annual banquet was attended by official representatives of three important state medical associations. Dr. Seale Harris of Birmingham, president of the Medical Association of the State of Alabama, spoke of the problems in his State. He said Alabama had a well organized public health service, but their problem in regard to the distribution of rural practitioners was even worse than ours. In my opinion Georgia should follow Alabama's example in public health work; then our need for more general practitioners would not be so great.

My short talk at Radium Springs regarding our local problems—better public health facilities, more community hospitals and better distribution of our physicians—was widely publicized in the press and precipitated comment indicating we were headed for "socialized medicine" if we are to solve such problems. It would appear most such statements are made without considering the physician's side of the question. One could well ask the question: Why not acquaint the public with the true facts concerning "state medicine" instead of following the thoughts of sentimental socialistic workers, most of whom know little, if anything, regarding the private practice of medicine and surgery?

The First District Medical Society held its semi-annual meeting at the Hotel DeSoto in Savannah on July 20. Members of the First



District manifested their usual interest in this meeting, and the speakers presented a good program. The Woman's Auxiliary of the First District also met on that date as did the Advisory Committee to the Woman's Auxiliary of THE MEDICAL ASSOCIATION OF GEORGIA.

Dr. William H. Myers, President-elect, addressed the Woman's Auxiliary regarding some of our national problems, especially those dealing with health insurance and regimentation of medical and surgical services. Dr. Myers' long service in the House of Delegates of the American Medical Association qualifies him for fine leadership when he assumes office next year, when we will possibly have more serious problems than ever before.

At all of these meetings one hears discussion of national affairs, a National Health Program or something dealing with "socialized medicine." So far we have had little representation in Washington; indeed, we have been denied certain important information by some of the so-called "left-wingers," a few of whom are full-time physicians with the government. Perhaps we will soon know more of what is going on. But there is one thing certain: organized medicine in this country is becoming stronger every day; the membership of the *American Medical Association* has increased almost nine thousand during the past two years. As long as we stand together and fight for the age-old principles of THE MEDICAL ASSOCIATION OF GEORGIA and the *American Medical Association* we cannot fail in our efforts to do the best thing for all the people.

GRADY N. COKER, M.D.

THE JOURNAL

OF THE

MEDICAL ASSOCIATION OF GEORGIA

Devoted to the Welfare of the Medical Association of Georgia

478 Peachtree Street, N. E., Atlanta, Ga.

AUGUST, 1938

ACUTE PULMONARY EDEMA

"Sometimes, Doctor, I wakes up in the middle of the night and I feels short of breath and I'se got a rattlin' down in my chest and I begins coughin' up pink foam. I has to sit up right quick to ketch my breath; ef I didn't sit up I know I'd jest die."

This account of a seizure of nocturnal orthopnea was given by a colored woman at the Gray Clinic of the Grady Hospital. In its simple and unmistakable clarity, if not in its grammar, it rivals a report by Sir Thomas Lewis. The description is of course pathognomonic of acute pulmonary edema.

Acute pulmonary edema is one of the greatest emergencies in medicine and, untreated, is one that is too often fatal. The attack comes on most frequently at night, often after prolonged or unusual exertion or excitement the preceding day, and the fact that it is at night increases the horror of it. By the time the doctor arrives the victim is deeply cyanotic, cold and clammy; he is in grave respiratory distress, breathing perhaps 64 times to the minute, and with each breath there is rattling that can be heard across the room; he is coughing up bloody foam and his pulse is racing; he may be out of his head. The diagnosis is made at a glance.

The patient with acute pulmonary edema is one who has long had heart disease, though occasionally he has not known it. This heart disease is usually of the type that places the principal strain on the left ventricle, by hypertension or by a lesion of the aortic valve.

Mild attacks, however, often result from coronary disease; they are indeed almost as pathognomonic of this condition as anginal pain. More pillows at night, more rest in the day, morphine for the acute attack and aminophyllin to allay recurrence are the most important therapeutic measures for such cases.

The pathologic physiology is failure of the left ventricle to send blood into the aorta fast enough; this failure blocks the inflow

from the lungs, resulting in partial stagnation of the blood in the pulmonary vascular system.

The immediate need in acute pulmonary edema is to lighten the load on the vascular system, that is, to reduce the elevated venous pressure by blood-letting. This must be done rapidly: for this purpose it is convenient to carry with one always a 12 or 14 gauge needle. Lacking such a needle, one can slash one of the big veins of the arm with a razor blade. It is useless to try to get blood out fast enough with an ordinary needle such as is used for intravenous work, even when a syringe is used to create suction.

At least a pint of blood should be removed. It is hard in the presence of a frightened, often hysterical, family to take this much from a patient apparently moribund. It requires courage for if the patient die during the process the doctor may be blamed for his death, but he must remember that bleeding offers the patient his best chance of pulling through. A patient of ours had his first attack of acute pulmonary edema in the summer of 1935, his second a year later. Pulmonary edema recurred in May, and we contented ourselves with withdrawing only about 400 cc. of blood. Three days later another attack came on and, our courage failing, we withdrew even less. A third attack within a week alarmed us: the patient had taken an enema because he thought it would make him more comfortable and the effort of expelling it had been too great for the small amount of his cardiac reserve. The first attack in this series incidentally was provoked by a drastic self-administered cathartic. We did not want to bleed him to death, so after allowing 80 cc. of blood to spurt from the antecubital vein we lifted the elbow to a level just above the base of the heart and allowed about 200 cc. more to run out, after which the flow stopped of its own accord. The essential thing in this condition is increased venous pressure in the lesser circulation; secondary to this is increased venous pressure in the greater circulation. Since it was impossible to draw blood from the pulmonary vascular system the next best thing seemed to be to reduce the venous pressure of the general circulation by allowing the patient to bleed from a peripheral vein

until the pressure sank to that of the right atrium. In this one case at any rate it worked.

A large dose of morphine is advisable because the patient is terrified, as he has every right to be. A small dose of atropine is often administered along with the morphine. In the opinion of many, the atropine is quite useless. On the other hand, it is equally harmless and there is a possibility that it may tend to dry up the lungs a little. If someone is present to help (there usually isn't) the hypodermic can be administered before or during the venesection, but the doctor himself must bleed the patient as rapidly as possible.

Tourniquets at each shoulder and high on each thigh, only tight enough to prevent the return of venous blood, have been recommended as an alternative to bleeding. In this way blood is temporarily removed from the active circulation. In patients already very anemic this method of treatment should be tried. At the time of our patient's third attack in a week, instead of bleeding him we might have tried this method—if we had had enough rubber tubing with us at the time to make four tourniquets.

The patient should of course be kept propped up at about 45 degrees and it is imperative that he not be allowed to move or even be moved for several hours. If his bowel must empty itself let it do so without disturbing the patient: the bed can be changed later.

It has been said that there is no emergency that the medical man can treat more satisfactorily. There is much justification for this because, if the patient is still living when the doctor arrives, the probabilities are great that within an hour and a half he will be perfectly comfortable and out of immediate danger. However, it is well for the physician to remain on hand for three or four hours longer.

Following an attack of acute pulmonary edema the patient should be kept in bed for from four to eight weeks to accumulate reserve strength in his heart. Psychic rest is almost as important as physical rest. His diet should be light but he should have small amounts frequently. Fluids should be moderately restricted. An occasional dose of salyrgan is beneficial. Of course if he is not already digitalized he should be promptly

digitalized and kept so continuously. The patient must ever after lead a life of restricted physical activity but it is quite possible for him to earn his living at a white collar job for a number of years.

DECOMPENSATION

Sir Thomas Lewis, in his text, "Diseases of the Heart" (pp. 114-116), registers strong protest against the terms "'compensation' and 'broken compensation' or its very ugly equivalent 'decompensation'." In speaking of the use of these terms he says, "this too prevalent habit is pernicious, for it destroys simple and precise habits of thought. Terms involving unproved hypotheses should be eschewed, and in this instance reference should be to the simple presence or absence of venous congestion."

Objections to the term "decompensation" are further afforded in the case with three attacks of acute pulmonary edema in a week cited above. Between these episodes of acute heart failure with extreme venous congestion, the patient showed no obvious signs of "decompensation."

With a heart "compensating" perfectly to all appearances, if one accepts the theory of compensation the patient should be allowed to go on about his business—or, in this particular case, his profession, the practice of medicine. Yet obviously to have allowed this man to do so would have resulted in his death some weeks ago.

Following the third attack of pulmonary edema salyrgan was administered intravenously to this doctor: salyrgan earlier might have forestalled the second and third attacks. With an occasional injection the doctor is quite comfortable now (July 20) and has resumed office practice. In passing, a dose of salyrgan, by relieving the chronic pulmonary edema of a failing heart (a venous congestion that may be hard to pick up on ordinary physical examination), will often do wonders in improving the night's rest of an ambulatory cardiac patient.

MacKenzie liked the term "heart failure," and we personally are keen for it. Paul White prefers the terms "myocardial insufficiency" and "coronary insufficiency" to "heart failure." These terms are precise and scientifically accurate.

L. M. BLACKFORD, M.D.

WOMAN'S AUXILIARY: OFFICERS 1938-1939

President—Mrs. Warren A. Coleman, Eastman.
 President-Elect—Mrs. Eustace A. Allen, 18 Col-
 lier Road, N. W., Atlanta.

First Vice-President—Mrs. H. G. Banister, Ila.
 Second Vice-President—Mrs. Jas. L. Nevil,
 Metter.

Third Vice-President—Mrs. D. T. Rankin, Alto.

Parliamentarian—Mrs. Ralph H. Chaney, Forest Hills, Augusta.

Recording Secretary—Mrs. Cleveland Thompson,
 Millen.

Corresponding Secretary—Mrs. J. Cox Wall,
 Eastman.

Historian—Mrs. C. C. Brannen, Moultrie.

Treasurer—Mrs. Robert Woodbury, Augusta.

DOCTORS' DAY ADDRESS*

MRS. JOHN S. HOWKINS
Savannah

Tomorrow has been set aside by the women of the Woman's Auxiliary to THE MEDICAL ASSOCIATION OF GEORGIA to do honor to our doctors; not because we are the wives and mothers of these men, but because we know as no one else the lives of service and quiet self-sacrifice that they lead. The physician's oath is not an empty form, and rare indeed is the man of this profession who does not consider himself as consecrated to his work as any priest or minister.

There is no individual so close to a family as its physician; no good fortune or trouble comes upon the household in which he does not share. He brings the children into the world, he comforts the young mother over their youthful ailments, and when Mary or Johnny get temperamental and difficult, it is often his wise advice that steers anxious parents through such problems. Then when tragedy and sorrow come, to whom more naturally should the family turn than to this same wise friend, who has known all the vicissitudes of the household?

The physician's private life, his own personal health and worries, must all be put aside when he goes into a household distracted with anxiety over the illness of a loved one. He must be cheerful, reassuring and calm, although being human, he has probably as much reason for personal worry as any of his patients. Stirring stories have been written of men of the medical profession who have cheerfully risked their lives that one small fact might be learned which would alleviate human suffering, of doctors who have quietly stayed at their posts through virulent epidemics without rest or sleep, until they quietly laid down and died, martyrs to their oath as a physicians and their sense of the responsibilities of their profession. Many stories just as stirring could be written every day of these quiet men who face the criminal, the insane, the diseased with infinite tolerance and patience, trying to find in the

warped and tortured souls the sickness which their wisdom alone can aid. Not all of the fine work of doctors is done with drugs or with a knife, and today these are only two of the tools of the profession, for as many sick souls find their way into the doctors office as do those with physical ailments, and many strange confidences are listened to and diagnosed with the same scientific desire to help as when there is a broken bone to set, or a raging fever to subdue. Doctors are usually most attractive, possessed of bright happy dispositions, enjoy a good joke and are always ready with one to tell. Another characteristic I have noticed about them is they are invariably good looking—I have never seen an ugly one.

I heard a doctor say once that sometimes a doctor had to have the courage to do nothing, and that this was often the hardest thing in the world to do. That painted a picture for me of this wise, calm, sympathetic man in the midst of a family, frantic with anxiety, pleading with him to do something, to do anything, and already perhaps too much has been done. No wonder most doctors measure up to the faith that their patients have in them. A man would be small indeed who could face the elemental things of life day by day, the bare secrets of human souls, and not grow into something a little more than just a man. Many unsung heroes have died for the advancement of the science of medicine, many human saints have walked this earth in the dress of the old family physician with his black bag out of which came everything from babies to solutions for family quarrels. Many such men are still among us today, answering our anxious calls at midnight or at dawn, never too tired, never too absorbed in their own affairs to respond to that age old cry, "Get the doctor!" Is it not fitting that once in a year we should pause to do them honor and take time to say with all our hearts, "God bless the doctors."

The fifteenth annual convention of the Woman's Auxiliary will be held in Atlanta, May 9-12, 1939. The wives of all members of the Medical Association of Georgia, who are not members, are urged to join Auxiliaries in their respective counties.

*Radio address over WTOG, Savannah, March 29, 1938.

MINUTES OF THE ANNUAL CONVENTION OF THE EXECUTIVE BOARD AND HOUSE OF DELEGATES, 1938

The Executive Board and House of Delegates of the Woman's Auxiliary to the Medical Association of Georgia was called to order by the President, Mrs. Ralph H. Chaney, Wednesday morning, April 27, 1938 at the Forest Hills Hotel, Augusta.

The Invocation was offered by Rev. John U. Veatch of St. John's Methodist Church.

The Address of Welcome was given by Mrs. Robt. C. McGahee, President-elect of the Richmond County Auxiliary, to which response was made by Mrs. H. G. Banister, Vice-President of the State Auxiliary.

Rules governing the convention were read by Mrs. Jas. N. Brawner and adopted.

Distinguished guests of the convention were introduced by Mrs. Crichton as follows: Mrs. Prentiss Wilson, Washington, D. C., First Vice-President of the Woman's Auxiliary to A.M.A. The following Past Presidents; Mrs. Jas. N. Brawner, Mrs. S. T. R. Revell, Mrs. J. Bonar White, Mrs. William R. Dancy, President-elect Mrs. Warren A. Coleman, and the President, Mrs. Ralph Chaney.

The minutes of the Thirteenth Annual Session were read and approved.

The Corresponding Secretary was requested to send letters of sympathy to the following: Mrs. Allen H. Bunce, Mrs. C. C. Harrold, Mrs. W. H. Myers, Mrs. J. Harry Rogers, Mrs. C. W. Roberts, Mrs. A. J. Mooney, Mrs. Ralston Lattimore.

Reports from the following districts were made:

Third District—Mrs. Loren Gary, Jr., Shellman.

Fifth District—Mrs. Eustace Allen, Atlanta.

Sixth District—Mrs. Harrold Atkinson, Macon.

Eighth District—Mrs. Leo Smith, Waycross.

Ninth District—Mrs. Bruce Schaefer, Toccoa.

Motion carried to accept the reports.

Dr. Geo. A. Traylor, president of the Medical Association of Georgia, addressed the convention on the subject "Your Organization."

Mrs. Prentiss Wilson gave an address on "The Objectives of the National Auxiliary to the American Medical Association."

Mrs. Victor Roule announced entertainments planned for the convention.

Reports from the following counties were made:

Bulloch-Chandler-Evans: Mrs. J. L. Nevil, Metter.
Chatham (Ga. Med. Society): Mrs. L. W. Williams, Savannah.

Dougherty: Mrs. W. P. Rhyne, Albany.

Dodge: Mrs. Warren A. Coleman, Eastman.

Toombs: Mrs. J. E. Mercer, Vidalia.

Randolph: Mrs. Loren Gary, Jr., Shellman.

Troup: Mrs. Wallace Clark, LaGrange.

Fulton: Mrs. Stephen Brown, Atlanta.

Bibb: Mrs. Harrold Atkinson, Macon.

Baldwin: Mrs. Y. H. Yarborough, Milledgeville.

Ware: Mrs. Leo Smith, Waycross.

Cherokee-Pickens: Mrs. C. J. Roper, Jasper.

Habersham: Mrs. D. T. Rankin, Alto.

Stephens: Mrs. C. L. Ayers, Toccoa.

Clark: Mrs. H. G. Banister, Ila.

Richmond: Mrs. C. M. Burpee, Augusta.

Motion carried to accept the reports.

Recommendations from the Pre-Convention Board meeting were read as follows:

1. That a filing cabinet and lock be bought and placed in the Academy of Medicine in Atlanta, for the filing of archives of the Auxiliary, and the cost of same be left to the discretion of the committee appointed by the president.

2. That Mrs. Warren A. Coleman, President-elect of the Auxiliary appoint a committee to have a Year Book printed for the ensuing year.

3. That the Auxiliary pay eighteen dollars (\$18.00) for casting die for the President's Pin, and five dollars (\$5.00) for each pin; the balance of cost to be paid by the individual presidents.

4. That the body accept the Rules of Award of the Silver Trophy as read by Mrs. James N. Brawner. That the committee on Awards consist of the Retiring President as Chairman, and the two previous past presidents.

Motion carried to accept the recommendations.

Mrs. Robert Greenblatt, chairman of Credentials, reported 114 registered for the convention.

The President appointed the following on Resolutions Committee:

Mrs. Eustace Allen, Atlanta.

Mrs. Y. H. Yarborough, Milledgeville.

Mrs. Robert McGahee, Augusta.

Motion carried to adjourn.

MRS. RALPH H. CHANEY, *President,*

MRS. CLEVELAND THOMPSON,

Recording Secretary.

FOURTEENTH ANNUAL CONVENTION, 1938

The Fourteenth Annual Convention of the Woman's Auxiliary to the Medical Association of Georgia was called to order by the President, Mrs. Ralph H. Chaney, Thursday morning, April 28, 1938 at the Forest Hills Hotel, Augusta.

The Invocation was offered by the Rev. Lawrence M. Fenwick, Rector Good Shepherd Church, Augusta.

The Address of Welcome was made by Mrs. C. M. Burpee, President of the Richmond County Auxiliary to which Mrs. Bruce Schaefer, Ninth District Manager, responded.

The report of the Advisory Committee from the Medical Association of Georgia was presented by the Chairman, Dr. James N. Brawner, Atlanta.

Dr. Grady Coker, President-elect of the Medical Association of Georgia, gave an address on "The Educational Value of the Woman's Auxiliary."

The minutes of the Executive Board and House of Delegates were read and approved.

Mrs. H. G. Banister took the chair while Mrs. Ralph H. Chaney, President of the Woman's Auxiliary, gave a full account of her splendid year's work. It was accepted with a rising vote of thanks.

Mrs. Warren A. Coleman, President-elect, gave a report of her year's work in Organization. This was accepted with thanks.

Reports were heard from the following officers:

Corresponding Secretary—Mrs. W. L. Mathews, Winder.

Treasurer—Mrs. W. A. Selman, Atlanta.

Historian—Mrs. C. C. Brannen, Moultrie.

Reports of the following chairmen of Standing Committees were made:

Mrs. R. S. O'Neal—Scrap Book.

Mrs. J. Lon King—Hygeia.

Mrs. Robt. Pendergrass—Student Loan Fund.

Mrs. J. L. Nevil—Health Films.

Mrs. E. R. Harris—Doctors' Day.

Mrs. W. R. Dancy—Legislation.

Mrs. Loren Gary, Jr.—Jane Todd Crawford Memorial.

Mrs. Leaman Williams, Auditor, reported all records and funds held by Treasurer were properly accounted for.

Motion carried to accept the reports.

Report from A.M.A. Auxiliary was read by Mrs. Jas. N. Brawner.

Mrs. J. Bonar White gave an inspiring talk on "Research in the Romance of Medicine."

Mrs. Robt. Greenblatt, chairman of Credentials, reported total of 153 registered, with one National officer, and eight state officers.

Report of Courtesy Committee was read by Mrs. B. H. Minchew, chairman, and accepted.

Impressive Memorial services were conducted by Mrs. R. W. Bradford of Milledgeville, acting for Mrs. Chas. Richardson of Milledgeville, for the Auxiliary members who died during the year:

Mrs. J. H. Terrell, Toccoa.

Mrs. L. C. Fischer, Atlanta.

Mrs. D. N. Thompson, Elberton.

Mrs. Ellen Jones, Milledgeville.

Mrs. Eustace Allen, chairman of Resolutions, made the following recommendations:

1. Whereas, the rules governing the Student Loan Fund in effect now, state that the committee shall be composed of a chairman—a member from each of the ten districts in the state, and a treasurer and whereas, such a large and scattered committee is unwieldy and difficult to contact when a loan is needed; therefore be it resolved that

The membership of the committee be changed to consist of a chairman and two members of the Auxiliary, to be elected by the Executive Board at its annual session, and two members of the Medical Association of Georgia to be appointed by the President of the Association. (The addition of the two doctors will greatly facilitate the investigations and recommendations necessary for safe loans.)

2. Whereas, the Constitution and By-Laws of the Auxiliary specify that the treasurer shall be custodian of all funds; and whereas, the funds of the Auxiliary are now divided among the chairmen of several committees; therefore be it resolved that

1. The Corresponding Secretary instructs all Chairmen to turn over funds in full, now in their possession, to the duly elected treasurer of the Auxiliary.

2. That the Treasurer be instructed to keep separate accounts for the several funds; Student Loan; Health Films; etc.

Motion carried to adopt all the above recommendations as outlined.

Motion carried to give the committee additional time to select the President's Pin.

Motion carried to reprint the revised copy of the Constitution and By-Laws.

The rules to govern the award of "The Mrs. James N. Brawner Trophy" was adopted as recommended by Mrs. Brawner, also that the Trophy would be held on deposit by the Richmond County Auxiliary until the annual convention in 1939 since the Auxiliary was organized in Augusta.

Officers nominated by the committee and elected were:

President—Mrs. Warren A. Coleman, Eastman.

President-Elect—Mrs. Eustace Allen, Atlanta

First Vice-President—Mrs. H. G. Banister, Ila.

Second Vice-President—Mrs. J. L. Nevil, Metter.

Third Vice-President—Mrs. D. T. Rankin, Alto.

Recording Secretary—Mrs. Cleveland Thompson, Millen.

Corresponding Secretary—Mrs. J. Cox Wall, Eastman.

Treasurer—Mrs. R.A. Woodbury, Augusta.

Historian—Mrs. C. C. Brannen, Moultrie.

Mrs. Ralph Chaney, retiring president, installed the officers in a very forceful way, and Mrs. Warren A. Coleman accepted the gavel with words of enthusiasm and courage.

Orchid corsages were presented Mrs. Chaney and Mrs. Coleman by the Richmond County Auxiliary.

The President then declared the Fourteenth Annual Session adjourned.

MRS. WARREN A. COLEMAN,
Recording Secretary.

POST CONVENTION MEETING OF EXECUTIVE BOARD, 1938

The post convention meeting of the Woman's Auxiliary to the Medical Association of Georgia, was called to order by the President, Mrs. Warren A. Coleman, April 28, 1938, Forest Hills Hotel, Augusta.

Motion by Mrs. Eustace A. Allen carried to authorize the Revisions Committee to spend necessary money for having Constitution and By-Laws reprinted.

Motion by Mrs. C. C. Brannen carried to authorize Historian to buy new book for history records.

Motion carried for the president to appoint a committee to select such papers of the Auxiliary as should be filed with its records to be preserved. Those appointed were:

Mrs. Ralph H. Chaney, Augusta.

Mrs. J. Bonar White, Atlanta.

Mrs. James N. Brawner, Atlanta.

Motion carried to appoint a Budget Committee to advise and assist the Treasurer of the Auxiliary. Those appointed were:

Mrs. Eustace Allen, Atlanta.

Mrs. W. A. Selman, Atlanta.

The president appointed chairmen of standing committees as follows:

GEORGIA DEPARTMENT OF PUBLIC HEALTH

T. F. ABERCROMBIE, M.D., *Director*

WHY REGISTER BIRTHS?

It is with considerable pleasure that a member of this Department be allowed to bring to the attention of the physicians of Georgia a subject of such vital importance to the children born in our State.

In the beginning we wish to thank the physicians of Georgia for their cooperation in reporting births in the past and ask that it be continued in the future. Georgia falls far short of having complete birth registration and it is the aim of our Bureau to obtain as nearly perfect registration as possible. To do this we must have the cooperation of every physician in Georgia.

A registered birth certificate is becoming more and more important every day to every Georgian. Some cities and counties in Georgia are requiring a registered birth certificate before a child can enter school. Georgians moving to other states are finding things increasingly difficult for them, because their births are unregistered. Some states require a certified copy of a registered birth certificate in order to enter school, obtain a drivers' license and to secure a marriage license. Some states require a registered birth certificate in order to obtain a job; this is necessary to comply with certain labor laws, and some industries want to hire only native born Americans. Our department has had requests from Georgians now living in other states for certified copies of their birth certificates, stating that they must have this document by a certain date or they will lose, or fail to get their job. Unless the certificate is on file in our office we are unable to help these persons.

The following table gives the number and per cent of births attended by physicians, midwives and those unattended for the years 1933-1937. The 61.72 per cent for 1937 is the peak year for this period. During that year physicians attended 39,510 births.

birth in order to secure aid from welfare organizations, for crippled and dependent children and other social security benefits.

A Georgian born since January 1, 1919 has no excuse for not having a registered birth certificate because the Bureau of Vital Statistics of the State Department of Health was established at that time for the collection and preservation of certificates of birth and death as provided in the State Vital Statistics Law. We ask that the physicians of Georgia report every birth attended in the future. You will be doing the child a great favor and be complying with the State law.

In the rural areas of our State it is impossible for the present number of physicians to attend all births, and practically all colored and many white births are attended by midwives. The midwives are under supervision of local and state health authorities and report a very high percentage of births attended.

After having considerable trouble getting a passport because his birth was unregistered the late Will Rogers once said, "A birth certificate ain't necessary to prove you were born, but one is necessary to prove when, where at, and who to."

Our department is called upon almost constantly to furnish certified copies of death certificates. These records are very important in settling estates and insurance claims. They are necessary to prove the parents are dead in order to obtain aid for dependent children.

The physician should always remember that in filling in a certificate of birth or death he should write plainly and complete each item, because that certificate is to become a permanent record in the Bureau of Vital Statistics of the State Department of Health.

DAVID M. WOLFE, M.D., *Assistant
Director, Division of Vital Statistics.*

THE NUMBER AND PER CENT OF BIRTHS ATTENDED BY PHYSICIANS

| ATTENDANT | NUMBER | | | | | RATE | | | | |
|------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Year..... | 1937 | 1936 | 1935 | 1934 | 1933 | 1937 | 1936 | 1935 | 1934 | 1933 |
| Physician | 39,510 | 36,659 | 37,312 | 39,498 | 35,112 | 61.72 | 59.50 | 58.95 | 61.10 | 57.81 |
| Midwife | 24,262 | 24,661 | 25,737 | 25,043 | 25,396 | 37.90 | 40.00 | 40.70 | 38.30 | 41.81 |
| Unattended | 240 | 297 | 241 | 74 | 236 | 0.38 | 0.50 | 0.30 | 0.10 | 0.38 |
| TOTAL..... | 64,012 | 61,617 | 63,290 | 64,615 | 60,744 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

The child born in Georgia today will find it compulsory to have a registered birth certificate by the time it gets grown. So do your part by these little fellows and register their births. A registered birth certificate is necessary to establish age, parents and place of

The American Social Hygiene Association announces that its Third National Social Hygiene Day has been set for Wednesday, February 1, 1939. Its theme will be Prevention of Congenital Syphilis. "Saving babies from syphilis is one quick and sure way to help wipe out the disease."

WOMAN'S AUXILIARY
POST CONVENTION MEETING OF
EXECUTIVE BOARD, 1938

(Continued from page 330)

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Trophy Award

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Mrs. R. E. Newberry, Atlanta.
Adjourned.

MRS. WARREN A. COLEMAN, *President*
MRS. CLEVELAND THOMPSON,
Recording Secretary.

NEWS ITEMS

THE CITY-COUNTY HOSPITAL, LaGrange, announces the opening of its cancer clinic. The staff of the clinic is composed of the following: *Director*, Dr. Enoch Callaway, LaGrange; *Associate Director*, Dr. Emory R. Park, LaGrange; *Eye, Ear, Nose and Throat*, Dr. R. M. Avery and Dr. W. H. Hadaway, both of LaGrange; *General Medicine*, Dr. H. H. Hammett, LaGrange; Dr. C. W. Harvey, Hogansville; Dr. J. E. Lane, Dr. D. E. Morgan and Dr. R. S. O'Neal, all of LaGrange; *Gynecology*, Emory R. Park, LaGrange; *Obstetrics and Pediatrics*, Dr. W. P. Phillips, LaGrange; *Pathology*, Dr. Jack C. Norris, Atlanta; Dr. Enoch Callaway, Dr. W. H. Clark, Dr. K. D. Grace, Dr. E. C. Herman and Dr. J. S. Holder, all of LaGrange; *Urology*, Dr. J. S. Holder, LaGrange; *Public Health and Syphilology*, Dr. S. C. Rutland, LaGrange; *Radiology*, Dr. Enoch Callaway, LaGrange; *Anesthetist*, Dr. W. R. McCall, LaGrange; *Technicians*, Miss Mildred Goldstein and Miss Peggy Gude; *Recorder*, Mrs. Lucile Bridges.

DR. B. C. HALE, Rossville, was host to members of the Walker County Medical Society at dinner on June 13.

DR. CHAMP HOLMES, Atlanta, was installed president of the American College of Chest Physicians at a recent meeting held in San Francisco, Cal.

DR. J. L. BENNETT, formerly of Trion, has moved to Acworth and will continue the practice of medicine at the latter location.

THE SIXTH DISTRICT MEDICAL SOCIETY met at Sandersville on June 30. Titles of scientific papers on the program were: *Care of the Senile Diabetic*, by Dr. Paul S. Kemp, Macon; *Treatment of Skin Cancer*, Dr. C. J. Woods, Macon; *Some Surgical Aspects of Gall-bladder Diseases*, Dr. F. B. Rawlings, Sandersville; *Newer Venereal Diseases*, Dr. Robert B. Greenblatt and Dr. E. S. Sanderson, Augusta; *Asphyxia Neonatorum*, Dr. R. C. Goolsby, Jr., Macon; *Varieties, Differentiation and Treatment of Goiter*, Dr. D. Henry Poer, Atlanta; *Pneumococcus Meningitis—Case Report*, Dr. J. A. Bell, Jr., Dublin.

THE SOUTHERN MEDICAL ASSOCIATION will hold its thirty-second annual meeting in Oklahoma City, Oklahoma, November 15-18, 1938. Georgia physicians who have office and committee assignments are: *Councilor*, Dr. Edgar G. Ballenger, Atlanta; *Board of Trustees*, Dr. Frank K. Boland, Atlanta; *Section on Pathology*, Dr. Everett L. Bishop, Atlanta, chairman; Dr. Roy R. Kracke, Emory University, secretary; *Section on Neurology and Psychiatry*, Dr. H. Dawson Allen, Jr., Milledgeville, vice-chairman; *Section on Bone and Joint Surgery*, Dr. J. H. Kite, Atlanta, secretary; *Section on Proctology*, Dr. Marion C. Pruitt, Atlanta, chairman; *Section on Railway Surgery*, Dr. George A. Traylor, Augusta, chairman. Dr. T. H. D. Griffiths, Savannah, is Georgia chairman of the National Malaria Committee which meets jointly with the Southern Medical Association.

DR. W. C. WATERS and DR. A. PARK MCGINTY announce their association in the practice of internal medicine at Suite 305 Doctors Building, 478 Peachtree Street, N. E., Atlanta.

THE FRIENDS OF MR. R. J. TAYLOR, Hawkinsville, celebrated his birthday anniversary recently and the opening of the R. J. Taylor Memorial Hospital at Hawkinsville, which he built for the people of Hawkinsville and Pulaski county. The staff consists of the following physicians: Dr. J. M. Horne, Finleyson; Dr. E. T. Newsom, Dr. E. C. Brown, Dr. A. S. Batts, Dr. A. R. Bush, all of Hawkinsville.

DR. ERNEST F. WAHL, Thomasville, spoke before a meeting of the Thomasville Kiwanis Club on June 22. He spoke on the *Initiative and Enthusiasm of the Medical Profession* and the effects of state medicine or government control.

DR. M. M. HARRIS, Waycross, director of the Waycross branch of the State Board of Health's laboratory, spoke on *Pneumonia* before a meeting of the Southwest Georgia Public Health Association at Quitman on June 23.

DR. ERNEST THOMPSON, Atlanta, has been elected Walton County Commissioner of Health and moved to Monroe.

DR. EDGAR G. BALLENGER, Atlanta, was installed president of the American Urological Association at Quebec, Canada, on June 29. He has served as president of the Southeastern Section of the American Urological Association, Southeastern Surgical Congress and is now councilor of the Southern Medical Association.

THE MACON MEDICAL SOCIETY of Bibb County met at Ridley Hall, Macon, on July 5. Dr. R. C. Goolsby, Jr., read a paper entitled *Asphyxia Neonatorum*.

DR. GEO. E. ATWOOD, Waycross, entertained the members of the Ware County Medical Society and their wives at the Casino on Fernandina Beach.

DR. HAROLD P. McDONALD, Atlanta, won the championship in a golf tournament at Quebec, Canada, which was sponsored by the American Urological Association during its recent meeting.

THE NORTH GEORGIA PUBLIC HEALTH ASSOCIATION was organized at Gainesville on June 28. Dr. W. D. Cagle, Gainesville, was elected temporary president; Dr. B. V. Elmore, Rome, was appointed chairman of the Committee on Constitution and By-Laws.

DR. T. I. HAWKINS, Griffin, has been elected Spalding county commissioner of health. He succeeded Dr. J. Render Anthony who resigned on account of ill health.

DR. J. R. CHILDS announces the association of Dr. Guy Arthur Myers in the practice of diseases of the eye, ear, nose and throat at Suite 611 Medical Arts Building, 384 Peachtree Street, N. E., Atlanta.

ANNOUNCEMENT HAS BEEN MADE that a cancer clinic will be opened in Savannah at an early date. Dr. E. Carson Demmond, president of the Georgia Medical Society, appointed the following to make preliminary plans for the opening of the clinic: Dr. Wm. H. Myers, chairman, Dr. Jabez Jones, Dr. John Paul Jones, Dr. T. J. Charlton, Dr. W. A. Cole and Dr. J. K. Quattlebaum.

THE SOUTHEAST GEORGIA CANCER CLINIC has been opened at Waycross. Personnel in charge of the departments are: Dr. W. D. Mixson, director; Dr. B. R. Bussell, associate director; *Eye, Ear, Nose and Throat Department*, Dr. B. E. Collins, Dr. B. H. Minchew, Dr. W. D. Mixson and Dr. Leo Smith; *General Medicine*, Dr. B. R. Bussell, Dr. W. M. Flanagan, Dr. J. E. Penland and Dr. R. C. Walker; *Surgery and Gynecology*, Dr. A. W. DeLoach, Dr. T. J. Ferrell, Dr. R. L. Johnson, Dr. Kenneth McCullough, Dr. W. L. Pomeroy, Dr. H. A. Seaman and Dr. C. A. Witmer; *Obstetrics*, Dr. D. M. Bradley, Dr. B. R. Bussell, Dr. A. W. DeLoach, Dr. T. J. Ferrell, Dr. R. L. Johnson, Dr. W. M. Flanagan, Dr. J. E. Penland, Dr. W. L. Pomeroy, Dr. H. A. Seaman, Dr. C. M. Stephens and Dr. C. A. Witmer; *Pediatrics*, Dr. H. J. Carswell and Dr. C. M. Stephens; *Proctology*, Dr. A. W. DeLoach, Dr. W. M. Flanagan and Dr. R. L. Johnson; *Radiology*,

Dr. D. M. Bradley and Dr. R. L. Johnson; *Urology and Syphiology*, Dr. W. C. Hafford, Dr. L. W. Pierce and Dr. W. F. Reavis; *Anesthesia*, Dr. D. M. Bradley, Dr. B. R. Bussell and Dr. J. E. Penland; *Public Health*, Dr. G. E. Atwood, Jr.

DR. E. S. ARMSTRONG, Cordele, spoke at a luncheon of the Cordele Kiwanis Club at the Suwanee hotel, June 29, on the *Purpose of a Department of Health*.

DR. V. H. BASSETT completed thirty years of service as Savannah health officer on June 30.

THE WALKER-CATOOSA COUNTIES MEDICAL SOCIETY held its May meeting at the office of Dr. B. C. Hale, Rossville. Dr. S. B. Kitchens, LaFayette, presided. Minutes of the previous meeting were read and adopted. Those present were: Dr. B. C. Hale, Rossville; Dr. F. L. Webb, Fort Oglethorpe; Dr. Fred H. Simonton, Chickamauga; Dr. S. B. Kitchens, LaFayette; Dr. Frank L. O'Connor, Fort Oglethorpe, and Dr. Richard C. Shepard, LaFayette. Dr. Kitchens discussed the value of the postgraduate course on obstetrics which was given at Chattanooga.

DR. EVERETT S. SANDERSON, Augusta, professor of bacteriology and public health at the University of Georgia School of Medicine, assisted in giving the oral examinations of the National Board of Medical Examiners recently held at Duke University School of Medicine, Durham, N. C.

THE NEW YORK POLYCLINIC MEDICAL SCHOOL AND HOSPITAL, New York City, announces the opening of a special department of Facial Palsy for teaching purposes, with clinics every Thursday at 2:00 o'clock. The department is in charge of Dr. Thomas G. Tickle and his staff.

IF INTERESTED in either of several locations for physicians, communicate with the Secretary-Treasurer. The places are recommended by people who are reliable and in position to know.

DR. CHAS. E. BOYNTON and DR. CHAS. E. BOYNTON, JR., announce their association in the practice of medicine and the opening of offices in Suite 906 Doctors Building, 478 Peachtree Street, N. E., Atlanta.

THE FIRST DISTRICT MEDICAL SOCIETY met at Hotel DeSoto, Savannah, July 20. The program consisted of: *Invocation* by Rev. Chas. W. Curry; *Address of Welcome*, Hon. Robert M. Hitch; *Response to Address of Welcome*, Dr. Cleveland Thompson, Millen. Titles of scientific papers were: *Endoscopic Removal of Foreign Bodies from the Air and Food Passages*, Dr. G. H. Lang, Savannah; *The Practical Application of the Endocrines in the Correction of Abnormal Menstruation*, Dr. H. F. Sharpley, Jr., Savannah; *Use of Sulfanilamide in Urology*, Dr. S. Elliott Wilson, Savannah; *Concerning Intestinal Obstruction*, Dr. Robert Drane, Savannah. The discussion was led by Dr. M. J. Egan, Savannah. *Address* by Dr. Grady N. Coker, Canton, president of the Association. Personnel of Entertainment Committee: Dr. Lee Howard, chairman; Dr. Ruskin King and Dr. S. E. Wilson. Program Committee: Dr. H. Y. Righton, chairman, Dr. A. A. Morrison and Dr. R. L. Neville.

THE COFFEE COUNTY MEDICAL SOCIETY met at Douglas on June 29. Dinner was served at Frank's Place. Dr. H. J. Bickerstaff, Atlanta, State Board of Health, showed two motion pictures, which illustrated: *Prenatal Care; Normal and Abnormal Deliveries*. Those present were: Dr. C. L. Davis and Dr. W. R. McCoy, Alma; Dr. L. H. Shellhouse, Willacoochee; Dr. W. L. Hall, Nicholls; Dr. T. H. Clark, Dr. J. G. Crovatt, Dr. H. J. Goodwin, Dr. R. L. Johnson, Dr. T. H. Johnston, Dr. I. W. Moorman, Dr. J. W. Wallace and Dr. B. O. Quillian, all of Douglas; Dr. Sage Harper, Ambrose.

THE GEORGIA DEPARTMENT OF PUBLIC HEALTH began August 1 to make only the Kahn test in all serologic examinations for syphilis. Notices were mailed advising physicians that the increased demand for serologic examinations prohibited more than one test and that the Kahn test had been found to be just as reliable as any other test and required less time, therefore reports on tests can be supplied in less time than formerly required. When the present supply of report forms is exhausted, new forms will carry the words, *Serological Test for Syphilis*, instead of the name of the particular test employed.

DR. H. T. EDMONDSON, Moultrie, announces the association of Dr. R. E. Stegall in the practice of medicine and surgery.

DR. STEWART ROBERTS and DR. E. VAN BUREN announce the association of Dr. Arthur J. Merrill for the practice of internal medicine with offices located at 768 Juniper Street, N. E., Atlanta.

THE SOUTHEAST GEORGIA PUBLIC HEALTH ASSOCIATION will hold its next quarterly meeting in Savannah on October 10.

DR. TAYLOR BURGESS has resumed the practice of medicine with offices in the Medical Arts Building, Atlanta. His practice will be limited to diseases of the eye, ear, nose and throat.

THE GLYNN COUNTY MEDICAL SOCIETY met in the shack of Dr. T. V. Willis at the Half Moon on July 12. The program consisted of a general discussion of the operation of the Brunswick City Hospital.

DR. EUGENE HAUCK announces his association with Dr. Walter R. Holmes with offices in Suite 515 Doctors Building, 478 Peachtree Street, N. E., Atlanta.

DR. C. W. ROBERTS, Atlanta, spoke before a meeting of the Albany Kiwanis Club at Albany, July 13, on *The Problem of the Delivery of Medical Care*.

THE CHATTAHOOCHEE VALLEY MEDICAL ASSOCIATION elected the following officers at the close of its annual meeting at Radium Springs, Albany, on July 14: Dr. J. S. Turberville, Fla., president; Dr. G. J. Dillard, Columbus, first vice-president; Dr. C. R. Bennett, Eufaula, Ala., second vice-president. Dr. Frank K. Boland, Atlanta, will serve two more years to complete his five year term as secretary-treasurer.

THE STATE DEPARTMENT OF PUBLIC WELFARE states that the following rules should be observed: "All communications, including telephone calls, relating to the Crippled Children's Program should be sent directly to Dr. Martin T. Myers, Director, Child Welfare Division, State Department of Public Welfare, Hurt Building, Atlanta. Residence phone, VERNON 3815, office phone JACKSON 1840. In order to avoid confusion it is urged that no direct contacts be made with surgeons, hospitals, or convalescent homes regardless of the nature of the problem."

DR. JOHN L. GALLEMORE, formerly of Eastman, has removed to Perry and will engage in the private practice of medicine there.

THE FIRST DISTRICT MEDICAL SOCIETY met at Savannah on July 20. Officers elected for the fiscal year were: Dr. Lee Howard, Savannah, president; Dr. Cleveland Thompson, Millen, first vice-president; Dr. E. Carson Demmond, Savannah, second vice-president; Dr. Charles Usher, Savannah, re-elected secretary-treasurer. The next meeting of the Society will be held at Statesboro, March 15, 1939.

OBITUARY

Dr. Thomas Bright Miller, Richland; member; University of Georgia School of Medicine, Augusta, 1875; aged 85; died at his home on June 23, 1938. His father, Dr. Bright Miller, moved from Washington county to Stewart county in 1830. Dr. T. B. Miller was born and reared in Stewart county and devoted his best efforts to the welfare of the people there so long as he was physically able to practice medicine. Dr. Bright Miller and his son, Dr. T. B. Miller, had the unusual record of having practiced medicine in Stewart county for almost a century. Dr. Miller took post-graduate courses at Tulane University of Louisiana School of Medicine, New Orleans, La., and at Jefferson Medical College, Philadelphia, Pa. He practiced medicine at Richland for 49 years. Dr. Miller served at times on the Richland city council, board of education, several terms as mayor and for 49 years a member of the Richland Baptist church. Surviving him are his widow and two sons, C. C. and W. B. Miller. Funeral services were conducted by Rev. M. E. Brown, assisted by Rev. J. F. Funderburke, Rev. J. R. Godfrey, Rev. R. M. Lovvorn and Rev. S. M. Penn from the Richland Baptist church. Interment was in Harmony cemetery. Members of the Stewart-Webster County Medical Society were honorary pallbearers.

Dr. Walter Henry Rose, Wrightsville; member; University of Georgia School of Medicine, Augusta, 1925; aged 48; died suddenly in his office on June 28, 1938. He was a native of Unadilla. After he graduated in medicine he was on the faculty of the University of Georgia School of Medicine for a number of years, then removed to Wrightsville where he had enjoyed an extensive practice. Dr. Rose had many friends and was an excellent citizen. He was a member of the Richmond County Medical Society and the American Medical Association. Surviving him are his widow, two sons, Walter Henry and Francis Louise Rose; one

daughter, Elizabeth Rose. Rev. W. A. Reiser officiated at services conducted from Elliott's Funeral Home. Burial was in Westover Memorial Park cemetery.

Dr. William A. Webb, Lithonia; member; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1910; aged 62; died suddenly of heart disease on July 1, 1938. He practiced in Lithonia and DeKalb county continuously since he graduated in medicine. Dr. Webb owned and operated the Lithonia Hospital for 20 years. He was held in high esteem by the people throughout that section. Dr. Webb served as a member of the Lithonia city council and owned a number of tracts of farming lands. He was a member of the DeKalb County Medical Society and the Methodist church. Surviving him are his widow, two sons, A. A. and I. L. Webb, both of Lithonia. Rev. Walter Milligan officiated at the funeral services conducted from the Methodist church. Burial was in the Lithonia city cemetery. Members of the DeKalb County Medical Society served as an honorary escort.

MEETING OF THE FLORIDA SECTION SOUTHEASTERN SURGICAL CONGRESS

The Florida Section of the Southeastern Surgical Congress extends the members of our Association a cordial invitation to attend the fifth annual clinical conference to be held at the Florida State Hospital, Chattahoochee, Florida, Saturday, August 27, 1938.

The meeting will convene at 9:00 A. M. Luncheon will be served by and at the hospital at 1:00 P. M. Meeting will adjourn at 4:00 P. M.

There will be no prepared or set papers. Clinical cases will be presented and discussed.

Dr. J. S. Turberville, Century, Florida, will preside.

Titles of clinical cases on the program are: *Surgical Lesions of the Right Lower Quadrant Simulating Acute Appendicitis*, by Dr. W. R. Meeker, Mobile, Ala.; *Cervicitis*, Dr. Walter R. Holmes, Atlanta; *Acute Pelvic Conditions Before and After Treatment*, Walter C. Jones, Jr., Miami, Fla.; *Clinical Examination of Surgical Patients*, Dr. T. C. Davison, Atlanta; *Clinical Examination in Cases of Nutritional Disturbances*, Dr. James S. McLester, Birmingham, Ala.; informal talks by Dr. B. T. Beasley, Atlanta, and Dr. J. H. Therrell, Orlando, Fla.; *Operative Treatment of Involutional Insanity of Agitational Type*, Dr. J. G. Lyerly, Jacksonville, Fla.; *Roentgen Ray in Diagnosis of Some Surgical Brain Diseases*, Dr. W. M. Shaw, Jacksonville, Fla.; *Medical Aspects of Gallbladder Disease*, Dr. Fred W. Wilkerson, Montgomery, Ala.

Committee on Arrangements: Dr. Frank D. Gray, Orlando, Fla.; Dr. Edward Jelks, Jacksonville, Fla.; Dr. Walter Jones, Miami, Fla.; Dr. J. C. Davis, Quincy, Fla.; Dr. J. S. Turberville, Century, Fla.

MINUTES OF THE WALKER-CATOOSA COUNTIES MEDICAL SOCIETY, LAFAYETTE, GA.

The regular monthly meeting of the Walker-Catoosa Counties Medical Society was held Monday evening,

April 4, 1938, at the office of Dr. Fred H. Simonton, Chickamauga. Acting President Dr. S. Bert Kitchens, LaFayette, presided. The minutes of previous meeting were read and approved.

The following members were present: Drs. S. B. Kitchens, B. C. Hale, F. L. Webb, F. L. O'Connor, Fred H. Simonton and Richard C. Shepard.

Dr. Frank O'Connor of Fort Oglethorpe read an interesting paper on the treatment of syphilis. Dr. O'Connor stressed the importance of early, long and continuous treatment of syphilis. His paper was supported by a large series of cases which showed the end results of different types of treatment, where the patient was insufficiently treated due to neglect to report for treatments and where rest periods were given. All statistics given stressed the necessity of long continuous treatment.

Dr. Fred H. Simonton reported on a series of approximately 1,000 Wasserman tests taken on an industrial group in the county and the incidence of syphilis was about 2 per cent. The other members reported on a series of tests that would represent a cross section of the county and stated that their results were about 2 per cent positive. These series of tests definitely showed that Walker county had a much lower syphilitic incidence than is common over Georgia.

The society was invited to meet with Dr. B. C. Hale in May.

RICHARD C. SHEPARD, M.D.
Secretary-Treasurer.

BOOK REVIEWS

The Larynx and Its Diseases, by Chevalier Jackson, M.D., Sc.D., LL.D., F.A.C.S., Professor of Bronchoscopy and Esophagoscopy, Temple University, Philadelphia, and Chevalier L. Jackson, A.B., M.D., M.Sc. (Med.), F.A.C.S., Professor of Clinical Bronchoscopy and Esophagoscopy, Temple University, Philadelphia. 555 pages with 221 illustrations, including 11 plates in color. Price, \$8.00. Philadelphia and London: W. B. Saunders Company, 1937.

In view of the prevalence of laryngeal disease and the vital importance of its functions it is extraordinary that among the many medical books published in this country in recent years this is the first that is devoted to the larynx and its diseases. One must quote from the introduction:

"The day of inferential diagnosis of diseases of the larynx is past. It is realized that the larynx of any human from the newborn babe to the century old, if any, can be examined, and examined in its entirety. The practitioner of today considers it essential to exclude laryngeal obstruction before maltreating a newborn babe to make him breathe. . . . He does not treat early cancer of the larynx under an inferential diagnosis of chronic laryngitis until the cancer has reached the incurable stage. . . . The pediatrician wishes to know which one of over a dozen different conditions is giving his patient a congenital laryngeal stridor and what should be done to cure it. . . . In fact every practitioner of medicine, as well as every student of medi-

cine, feels the need of a promptly available, well illustrated presentation of diseases of the larynx from the viewpoint of today."

Dr. Jackson and his son have presented a book that beautifully fills this need. They do not devote a great deal of space to the anatomy of the larynx which the reader can find in any of the standard textbooks of anatomy, but they do discuss its physiology in remarkable detail; the exposition of the nine functions of the larynx will prove enlightening to most physicians.

While it is unnecessary for the general practitioner to comprehend the technic of laryngoscopic examination and while it is perhaps best for him to leave all instrumentation in this region to the specialist, he will be benefited by most of the book. Both the general man and the specialist will enjoy the many illustrations. These include a large number of original drawings by Chevalier Jackson himself, both in black and white and in full color, as well as photographs, photomicrographs, and x-rays.

While every doctor should be able to refer to this book, the laryngologist of today must own it.

MURDOCK EQUEN, M.D.

AMSTERDAM BROTHERS, ATLANTA

We have striven unceasingly, since that day 25 years ago in Philadelphia when we began our business, to improve our service and facilities. During all that time and including the present we have fitted appliances *only* upon the prescription of the doctor. Moreover, your prescriptions have been filled carefully and painstakingly. We maintain our own factory in which all our appliances are designed and made by craftsmen who are specialists in this field. There are no stock appli-

ances at Amsterdam Bros. For further convenience, a record of each prescription is kept so that your patients can be served at any Amsterdam Bros. office no matter at which of our units the appliance was bought.

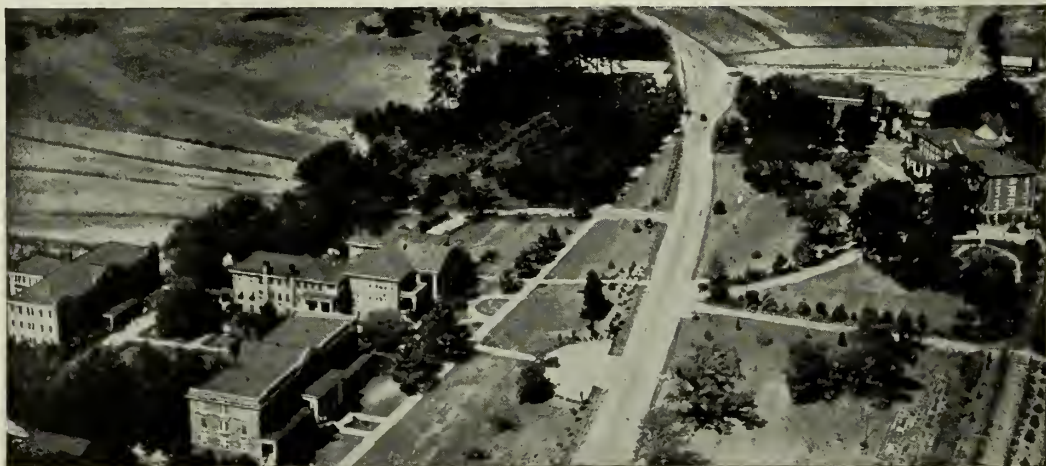
Our service doesn't stop with the making of the appliance. Perfect fitting is absolutely essential if the patient is to benefit by your prescription. Amsterdam fitters are experienced—they are not content with anything less than perfection. To forestall embarrassment for your patients, we employ both men and women fitters.

So great has been your response to our unusual type of service that now our New York City office, after a short five years since its opening, has contracted for additional space. This virtually doubles our capacity at this office.

The confidence of the physician reposed in our ability to serve his patients is extremely satisfying. Again we say . . . many thanks—and pledge ourselves to fit your patients in detailed accordance with your prescriptions and at fair prices based upon today's economic standards.

It is with much pleasure that we announce the opening of the newest Amsterdam Unit at Atlanta, Ga., the *first* exclusively Surgical and Orthopedic Appliance House in this city. Our orders in the South have been increasing at such a rate that this forward step was inevitable. Here again, we express our gratitude to the many doctors whose response to our policies of cooperation, service, perfect fitting and making of appliances has made our latest office possible.

The Atlanta office is our latest step forward but this shall not stay us in our efforts to improve our service for greater satisfaction to you and your patients.



ALLEN'S INVALID HOME *Milledgeville, Ga.*

• E. W. ALLEN, M.D., PHYSICIAN IN CHARGE
DEPARTMENT FOR MEN

FOR NERVOUS AND MENTAL DISEASES

• H. D. ALLEN, M.D., PHYSICIAN IN CHARGE
DEPARTMENT FOR WOMEN

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ACUTE DIVERTICULITIS OF THE COLON WITH COMPLICATIONS*

Report of Cases

LON GROVE, M.D.
KENNETH R. BELL, M.D.
Atlanta

The occurrence of diverticula of the large intestine has been a subject of interest since 1850, but no detailed study of the pathologic anatomy and physiology was presented until the work of Edwin Beer in 1904. All investigative studies since that time bear out his opinion that most diverticula of the colon are acquired and consist of herniations of the mucosa and submucosa through the circular muscle layer of the colon between the longitudinal taeniae. Congenital colonic diverticula characterized by the sac wall containing all layers of the gut wall are reported, but their occurrence is rare. Diverticula may occur on either the mesenteric or antimesenteric borders of the colon, the latter being the more frequent site.

The etiologic factors involved are age, obesity, and longstanding chronic disease of the colon. The condition is unusual under 40 years of age and rare in childhood. It appears that diverticula occur in 1 to 5 per cent of individuals and that 60 to 70 per cent of all acquired intestinal diverticula occur in the descending and sigmoid portions of the colon.

It is a characteristic of a diverticulum of the colon to have a narrow neck, which is conducive to the formation of fecaliths within the diverticular sac. These retained fecaliths undoubtedly play a role in setting up an acute inflammatory reaction in one or more such diverticula, producing the condition known as acute diverticulitis. Various reports indicate that 11 to 13 per cent of persons with diver-

ticulosis at some time give a history of acute diverticulitis.

Acute diverticulitis may be divided into three groups, namely, (1) simple diverticulitis or peridiverticulitis, (2) diverticulitis with abscess and fistula formation; (3) diverticulitis with obstruction.

Acute diverticulitis presents the clinical picture of an acute surgical abdomen. There may or may not be a history of diverticulosis, depending on a previous radiologic study. The majority of patients complain of general abdominal pain, lasting over several days, associated at times with nausea and vomiting, with pain becoming localized in the left lower quadrant and radiating to the rectum. The history frequently states that a bowel movement gives temporary relief of pain. The stools frequently contain mucus, pus and blood. Examination will reveal tenderness deep in the pelvis near the midline or in the left lower quadrant, with some spasticity of muscles. If there is extensive involvement, a soft tender mass may be palpated along the sigmoid. The white blood count is usually slightly elevated, becoming more so, along with rising temperature, if the condition is progressing to suppuration. In the event an acute diverticulitis of the cecum is encountered, the clinical picture cannot be differentiated from acute appendicitis, unless the existence of a diverticulum has been previously determined. The authors have personal knowledge of a patient operated upon by an able surgeon and a gangrenous appendix removed. This patient was subsequently studied with a barium enema and an appendix visualized, and the appendix later removed by a second competent surgeon. Undoubtedly the first surgeon removed a gangrenous diverticulum of the cecum.

In the presence of acute diverticulitis in a known case of diverticulosis, the treatment is symptomatic until signs of intra-abdominal

*Read before the Medical Association of Georgia, Augusta, April 28, 1938.



FIG. 1



FIG. 2

FIG. 1

(Case 1) Roentgenogram of colon following partial expulsion of a barium enema, showing the multiple diverticula of the colon.

FIG. 2

(Case 2) Roentgenogram of colon following barium enema, showing a solitary diverticulum of the colon, which was identified as such at a subsequent operation.

suppuration or acute obstruction manifest themselves. Such symptomatic therapy consists of bed rest, hot saline enemas, heat applied to the abdomen, and the administration of belladonna and sedatives. Occasionally, however, the onset of abdominal pain in a patient, when the presence of a diverticulosis is unknown, will be so acute and rapid that laparotomy is indicated.

In the presence of perforation of an acute diverticulum with formation of an abscess, the procedure of choice is to drain the abscess, leaving the perforation in the bowel untouched. The resulting fecal fistula will close, if there is no obstruction below the perforation. In the presence of an acute abscess complicated by obstruction, the indications are again for drainage of the abscess, allowing sufficient time for edema and inflammatory reaction to subside. If the obstruction persists, temporary colostomy will be indicated. If this procedure fails to relieve the obstruction, resection of the involved area or permanent colostomy must be considered. This will not be indicated, however, until ample time has elapsed for the inflammatory element in the obstruction to have completely subsided.

Although the incidence of carcinoma of the colon associated with diverticulosis is less than 1 per cent, any chronic obstructing lesion of the colon must be considered in the light of a possible malignancy.

The following case reports illustrate the problems encountered in handling cases of acute diverticulitis of the colon and complications arising therefrom.

Case 1. Mr. J. M., white male, aged 60, very obese, was first seen in June 1930. He gave a history of acute abdominal pain of 3 days duration, cramplike in character, mostly in the left side, and not associated with nausea or vomiting. An enema gave temporary relief. Examination of the abdomen revealed a small tender area of infiltration along the descending colon. The blood count was normal. A diagnosis of acute diverticulitis was made, followed by conservative treatment, with recovery. Fig. 1 shows the cologram taken after the acute condition had subsided, revealing a condition of diverticulosis of the colon. This man has been seen on several occasions since this original illness, with recurrences of the same symptoms, with prompt recovery on symptomatic treatment.

Comment: This case is used to show the usual case history, findings, and clinical course of a diverticulosis of the colon with acute diverticulitis when treated conservatively.

Case 2. Mrs. W. B. S., white female, aged 35, very obese, was admitted to the hospital on Feb. 7, 1935. Forty-eight hours previously she became acutely ill with abdominal pain, which soon became localized in the left lower quadrant, associated with fever, nausea, and vomiting. She had had a similar attack in 1929, with recovery, without a positive diagnosis being made. She gave no history of constipation or other bowel disturbance. There was a history of irregular and painful menstruation. Examination revealed acute tenderness low in the abdomen, just above the left inguinal region. Pelvic examination revealed a myomatous uterus, with a soft tender mass in the left culdesac. The white blood count was 10,500. A diagnosis of an ovarian cyst with a twisted pedicle was made and an emergency operation carried out. Exploration revealed a myomatous uterus, a small left ovarian cyst without a twisted pedicle, and an inflammatory mass involving the rectosigmoid juncture of the colon. A diagnosis of acute diverticulitis was made and the abdomen was closed without drainage. Proper therapy for the diverticulitis was instituted and the patient promptly recovered. Fig. 2 shows the solitary diverticulum of the sigmoid. This diverticulum was subsequently observed at the time a supravaginal hysterectomy was



FIG. 3
(Case 3) Lateral view of the fecal fistulae following their injection with barium.



FIG. 4
(Case 3) Roentgenogram of the colon after barium enema, showing a partial obstruction, fistulous tract, and multiple diverticula.

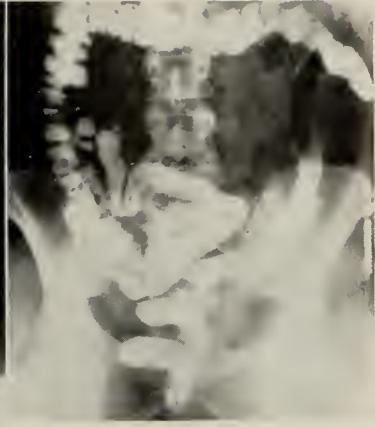


FIG. 5
(Case 3) Roentgenogram of the colon filled with barium, after the return of normal function. The obstruction has been relieved and the fistulous tracts are closed. The multiple diverticula cannot be seen with the colon filled with barium.

done. No attempt was made to ligate and invaginate the diverticulum because of its close relationship to the blood supply of the colon. The patient has remained entirely well for 3 years.

Comment: This case illustrates the proper management of acute diverticulitis when a mistake in diagnosis leads one into an emergency operation.

Case 3. Mrs. M. F. M., white female, aged 40, very obese, was admitted to the hospital July 2, 1935. Her health had been good until 7 months prior to admission, at which time she became acutely ill with left lower abdominal pain. This was treated symptomatically by her physician, with only partial relief. She was referred to a surgeon who advised an operation for pelvic disease. She was told after the operation that her appendix and two inflamed diverticula of the sigmoid had been removed. Her convalescence was stormy for about a week, at which time she developed a fecal fistula through the operative wound, followed later by a second fistula. These fistulae continued to drain for the several months prior to her coming to us on July 2, 1935. Fig. 3 shows the lateral view of the sinus tracts. A barium enema (Fig. 4), revealed a partial obstruction of the sigmoid and the presence of multiple diverticula. Ten days after admission a high temporary colostomy was performed. This was followed by prompt improvement, with relief of the obstruction and a decrease in the drainage from the fecal fistulae. Shortly after the colostomy was performed, the fistulae discharged two knotted pieces of linen, evidently used as purse string sutures in the resection of the diverticula in the original operation. Seven months after the colostomy the sinus tracts were excised and the openings into the sigmoid closed. This was followed by further improvement, and 6 weeks later the temporary colostomy was closed. Fig. 5 shows the colon after its return to normal function.

Comment: This case illustrates graphically the tragedy of any attempt to remove an acutely inflamed diverticulum.

Case 4. Miss E. B., white female, aged 41, very obese, admitted to the hospital Jan. 10, 1921. The

history given was one of recurring low abdominal pain, distention of the abdomen, passage of blood in the stools, nausea and vomiting. Symptoms had recurred over a period of 3 years. Roentgenograms revealed the presence of multiple diverticula of the colon, with partial obstruction in the rectosigmoid area. A preoperative diagnosis of acute diverticulitis with obstruction and possible malignancy was made. Laparotomy on Jan. 17, 1921, revealed a large pelvic abscess, originating from a perforation of the sigmoid. The abscess was drained and an attempt was made to close the opening in the sigmoid. The patient had a stormy convalescence and developed a fecal fistula on the fourth postoperative day. Gradual improvement followed, the patient being able to leave the hospital on the forty-fifth postoperative day with the fistula still draining. Five months later it was necessary to excise the fistulous tract and close the opening in the sigmoid. A supravaginal hysterectomy was done to clear up the pelvic inflammatory disease secondary to the original abscess. She has remained well for 17 years.

Comment: This patient illustrates the difficulties encountered in acute diverticulitis with obstruction, in which the obstruction cleared up without colostomy. In this case, done 17 years ago, in light of our present knowledge, no attempt should have been made to close the perforation in the bowel at the first operation.

Case 5. Mrs. G. L. B., white female, aged 47, was admitted to the hospital Nov. 22, 1937. She gave a history of illness of 2 years, during which time she had been treated for typhus fever, malaria, "indigestion" and, finally, cancer of her rectum. Four weeks prior to admission she passed the first blood noted in her stools. Her abdominal symptoms had become progressively more pronounced in the past few weeks. Recent roentgenograms had shown an extensive filling defect of the rectum and lower sigmoid, on which a diagnosis of carcinoma had been made. Fig. 6 shows the defect in the colon as it existed on admission to the hospital. Two proctoscopic biopsies from the lower end of the stricture failed to reveal a malignancy. In view of the longstanding history, the negative biopsy

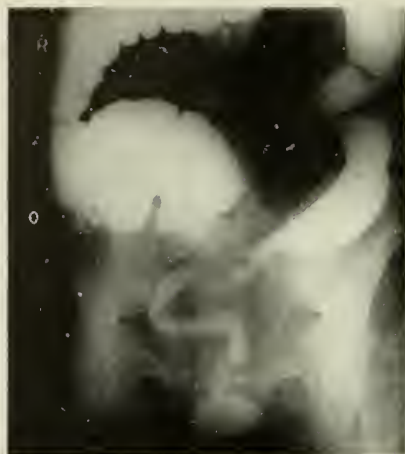


FIG. 6

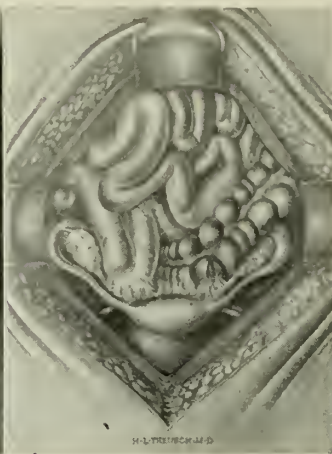


FIG. 7



FIG. 8



FIG. 9

FIG. 6
(Case 5) Roentgenogram of the colon filled with barium, showing the extensive stricture involving the rectum and lower sigmoid.

FIG. 7
(Case 5) A drawing made at the time the abdomen was opened, showing the extensive inflammatory involvement of the sigmoid and pelvic organs, with a diverticulum of the sigmoid on the antimesenteric border plainly visible.

FIG. 8
(Case 6) Roentgenogram of the colon filled with barium, showing (see arrow) what appears to be a solitary diverticulum of the sigmoid. This film was taken after a pelvic abscess had been drained.

FIG. 9
(Case 6) A drawing made at the time of operation, showing the diverticulum of the sigmoid, on the mesenteric border, which was adherent to the terminal ileum. Note the torsion of the cecum through 180 degrees, due to inflammatory adhesions around the appendix.

reports, the evidence of sepsis, and intestinal obstruction, a preoperative diagnosis of inflammatory obstruction was made and an exploration carried out on Nov. 29, 1937. Fig. 7 shows the condition as first seen on opening the abdomen. The diverticulum of the sigmoid at once indicated the origin of the disease. Further exploration revealed two large, apparently sterile, abscesses in the pelvis, one on each side of the colon, not associated with the tubes, causing extensive inflammatory reaction in the wall of the colon. It was necessary to remove all pelvic organs in order to give adequate drainage to the abscesses. Her convalescence was stormy, with the development of a fecal fistula on the tenth postoperative day. The patient was a confirmed morphine addict which added to the difficulties of the convalescence.

On the twenty-third day after her original operation it was necessary to perform a temporary left inguinal colostomy to relieve the intestinal obstruction, which failed to clear up satisfactorily after drainage of the abscesses. Improvement was slow but continuous, the patient being dismissed from the hospital 3 months after admission, with the rectal stricture sufficiently open to permit daily small stools. The temporary colostomy and the fecal fistula subsequently closed spontaneously and the colon function has returned to normal.

Comment: This brief case report in nowise tells the complete story of the battle with intestinal obstruction, chronic sepsis, morphine addiction, acute vitamin deficiency, and broken morale carried on to rehabilitate this patient.

Case 6. Baby J. S., aged 4½ years, white female, was first seen on May 8, 1937 with a history of illness for 4 days associated with pain in abdomen, nausea and vomiting, bloody stools and a high temperature. Examination showed acute tenderness across the lower abdomen with a tender mass palpable in the pelvis on rectal examination. The white blood count was 27,500. Emergency operation was carried out with the drainage of a large pelvic abscess related to the sigmoid and not related to the appendix. The patient developed a fecal fistula postoperatively, which closed spontaneously on the twentieth day. Subsequent study of the colon revealed what appeared to be a solitary diverticulum of the sigmoid (Fig. 8). Following an attack of either mild acute appendicitis or mild obstruction, the patient was operated upon again on Feb. 19, 1938. The findings are illustrated in Fig. 9. This was undoubtedly a solitary diverticulum of the sigmoid, on the mesenteric border and apparently congenital, which was adherent to the ileum and undoubtedly was the origin of the pelvic abscess encountered at the first operation. The appendix was removed, the adhesions between the sigmoid and the ileum were cut, and the diverticulum ligated and buried with a pursestring suture.

Comment: If our findings are correctly interpreted this is the youngest patient with acute diverticulitis of the colon with rupture on record.

Case 7. Mrs. S. F. P., white female, aged 49, very obese, was first seen at the hospital 5 weeks after admission, under treatment for a pelvic peritonitis. The



FIG. 10

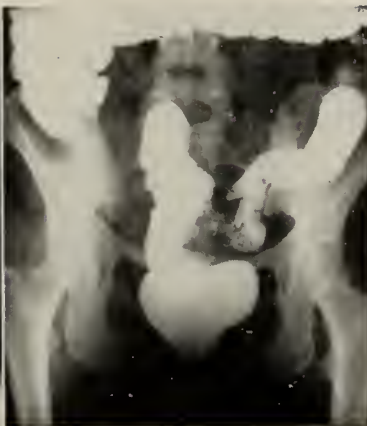


FIG. 11

FIG. 10
(Case 7) Roentgenogram of the colon showing the partial expulsion of a barium enema, showing the multiple diverticula, some stenosis of the sigmoid, and a well visualized appendix.

FIG. 11
(Case 7) Roentgenogram of the colon filled with barium, showing a high grade obstruction of the sigmoid. Note that the appendix, so well visualized on the film in Fig. 10, does not show on this film.

patient was known from previous roentgen-ray studies to have a diverticulosis and had been treated in the past for recurrent attacks of acute diverticulitis. Fig. 10 shows the original films which show the multiple diverticula, some stenosis of the sigmoid, and a patent appendix. With the onset of her present illness, her physician again thought her condition to be due to acute diverticulitis, although giving his opinion that it gave many signs of being acute appendicitis. It was soon evident that the patient had an extensive pelvic peritonitis. Fig. 11 shows the colon at the height of her illness. It shows the obstruction in the sigmoid, but the appendix is not visualized. On conservative treatment, the patient finally became free of fever, without evidence of a localized abscess. She remained well and without fever for 6 weeks. At that time, she became ill with a recurrence of her original symptoms. After observation for 18 hours, a diagnosis of acute appendicitis was made and an operation was performed through a McBurney incision. A large abscess in the region of the cecum was opened and drained. The pus was odorless, so the abscess was thought to be sterile and a more complete exploration was done, identifying the stump of the appendix and removing it. The patient made an uneventful recovery. She was operated upon again 2 months later because of persistent symptoms of pelvic inflammatory disease. At that operation the course of the infection from the appendiceal region, across the right broad ligament, fundus of the bladder and uterus, and into the left culdesac was definitely demonstrated. A small sterile abscess in the culdesac involving the left ovary was encountered but this had no relationship to the sigmoid or the adjacent diverticula which were demonstrated on the sigmoid. The further fact that no fecal fistula developed subsequent to the drainage of either abscess is important in ruling out a relationship between abscess and diverticula. It is evident, however, that the stenosis of the sigmoid could not have been due to the appendiceal abscess, making the diagnosis of acute diverticulitis of the sigmoid, complicated by an appendiceal abscess, the only explanation for all the pathologic changes found. Since the pelvic operation the patient has remained entirely well except for a small area of induration along the sigmoid, felt on vaginal examination.

Comment: This case report is presented as a warning that patients with diverticulosis can develop acute abdominal disease not associated with the diverticula and one is not warranted in delaying operation too long in the face of conflicting findings. This case report further illustrates the diagnostic value of a fecal fistula in patients with pelvic abscesses, as in our experience all ruptured acute diverticula with abscess formation have developed fistulae following drainage of the abscess.

Summary

A discussion of the occurrence of the clinical entity known as diverticulosis, with its accompanying condition of acute diverticulitis, is presented.

Seven case reports illustrating the management of complications arising from such disease are given.

A case with rupture of a solitary diverticulum of the sigmoid in a child, aged 4½ years, is recorded, being the youngest such case found in the literature.

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DISCUSSION ON PAPER OF DOCTORS GROVE AND BELL

Dr. Ralph H. Chaney (Augusta): I think that the authors are to be complimented on the presentation so completely of a condition which previously has been considered rare, but with the advent of more frequent roentgenologic examinations has been shown to be not uncommon.

There are certain factors in the development of this condition which indicate that the primary difficulty behind the lesion is not congenital. The first factor is indicated by its infrequency in young individuals, it being uncommon below the age of 40. The second factor is the arrangement of the colonic musculature itself. The internal muscular layer of the colon is weak though circular in arrangement. The longitudinal layer is gathered into three bands, the taeniae coli, throughout the colon to the sigmoid where the bands tend to spread out more evenly and much more thinly than higher up. Due to this weak muscular development the colon is unable to stand any considerable pressure for any continuous time without manifesting distension. For good function the colonic content should be maintained in a soft state. Rowden states that if 80 per cent of the water is extracted from the colon that the colon is unable to empty or expel its content unaided and that the voluntary muscles of the abdominal wall are called upon to assist. The weak musculature of the colon is unable to withstand the repeated bringing into play of this additional force and gradually the mucous membrane is forced through the weakest points. This is the most probable theory for the formation of diverticula. Confirmation of this theory exists in the fact that diverticula are most often found in the sigmoid where the greatest force can be exerted by the abdominal muscles. The fact that practically all diverticula are false, that is, containing only mucous membrane, submucosa, and peritoneal coverings, gives further support to this theory. Truly, these lesions could be called hernia of the colonic mucous membrane.

Diverticulosis is a pathologic-anatomic condition and not a disease until some inflammatory change arises. Even though the symptomatology is frequently so clear cut, that diverticulitis of the sigmoid is sometimes called appendicitis of the left abdomen, the diagnosis can only be positively made by one of two procedures. (1) Exploratory laparotomy; (2) Roentgenologic studies. In the latter instance the pathologic changes are best demonstrated by opaque enemas, though this procedure may, at times, be combined with studies following barium by mouth to advantage. Diverticulitis is indicated usually by the presence of multiple uninvolved diverticulosis. In the acute primary diverticula alteration of haustration is the first indication. In these instances the haustrations alternate instead of being opposite each other as in the normal colon. It must be remembered that at this time their appearance is regular. The second indication is change in the outline of the haustrations which arises from the encroachment upon the lumen by the thickened bowel wall. The final indication is obstruction which may become complete. All three of these phases have been seen in a single case by some observers. When obstruction exists the differential diagnosis from malignancy may cause some difficulty, but the main factors are: (1) Diverticulitis is associated with diverticula in the neighborhood of the deformity of the bowel, while in carcinoma diverticula are not commonly present; (2) Diverticulitis produces a rather characteristic deformity with changing phases and, (3) usually involves a longer section of the bowel than does carcinoma.

In diagnosis the factor of double disease should never be overlooked especially because this condition arises at an age period when carcinoma at some other location is not rare and again gallbladder disease is not unusual and often is found in association. Thus because diverticulosis has been demonstrated by x-ray studies we must not assume that every case of inflammatory disease associated with diverticulosis is diverticulitis.

McGlannon states that acute diverticula may be ligated and the stump inverted as in appendectomy but most of us see these cases when abscess exists, in which instance, general opinion agrees with the authors that drainage is the best primary procedure.

My own experience only includes three cases, all of whom were seen in the stage of abscess, all were drained, all had subsequent fecal fistulas, and all recovered following prolonged convalescence. I have several times inverted noninflammatory diverticula when operating for other causes and have not yet regretted so doing. This, however, was treating diverticulosis and not treating diverticula.

Finally in closing, I again wish to thank the authors for their splendid paper and compliment them on their splendid results.

Dr. Frank K. Boland (Atlanta): When I was a young assistant demonstrator of anatomy at the close of one of the periods of dissection some of the freshmen medical students crowded around me and said that a new fresh subject had just been admitted to the dissecting room and would I mind showing them how to operate for appendicitis. I was very anxious to display the knowledge which I had so lately acquired and accordingly, against the law, began to show these freshmen how to operate for appendicitis. I made a right rectus incision but could find no appendix. The incision was enlarged upward and downward and still no cecum or appendix appeared. Finally I discovered that the liver was not on the right side, but on the left side of the body. This was my first introduction to the transposition of viscera. I mention this incident to bring out the point that while acute diverticulitis simulates acute appendicitis on the left side it is possible that the patient might really have acute appendicitis on the left side. Of course the ordinary physical signs of the chest should determine the presence of an appendix on the wrong side, inasmuch as transposition of the heart practically always indicates transposition of all other viscera. There have been only a handful of cases reported in which the heart alone was transposed.

In an article on "Acute Appendicitis and Complete Transposition of Viscera," by Block and Michael, in the *Annals of Surgery*, April 1938, the point is made that no matter if the appendix is transposed to the left side the pain should still be in the right side, because even though the viscera are transposed their nerve supply remains the same. Theoretically this view might be correct, and in a case of acute appendicitis on the left side in a pregnant woman reported by these authors the pain was in the right side, although the appendix was transposed. In the only case I have had of acute appendicitis in transposed viscera the pain.

tenderness and rigidity were on the left side, or over the location of the appendix.

I agree with what Dr. Grove has said about the treatment of these cases. We recognize the fact that diverticulosis and diverticulitis do not become surgical except in the presence of complications. Unless one has obstruction, abscess or perforation, treat the patient medically.

We found sometime ago that these patients who were examined by x-ray with barium enemas and barium meals with diverticulitis or diverticulosis always seemed to be better from their symptoms after the examination. That gave us the idea that a good medical treatment for these conditions is the administration of barium either by rectum or by mouth, because the barium seems to keep these diverticuli filled and thus crowds out the fecal contents which no doubt cause the symptoms from putrefaction and fermentation that go on in those little pockets. I think that is a pretty fair medical treatment—of course in addition to proper diet.

Dr. James J. Clark (Atlanta): I have enjoyed Dr. Grove's paper very much. The surgical treatment of diverticula is usually a surgical emergency. I should like to mention some of the problems we encounter in the diagnosis of diverticula. Roentgenologically we classify diverticula under two heads, the congenital and acquired. The congenital diverticula include Meckel's. The acquired we divide into two groups, the complete and the incomplete.

The incomplete diverticula may have all of the coats of the intestine and is simply a bulge, or a blow-out, of a small segment of the bowel.

The complete diverticula is a herniation of the mucosa through the muscular coat whose outer covering is the peritoneum.

Naturally, the complete diverticula is more dangerous, in that it requires very little infection or irritation to produce either a perforation, or a localized peritonitis.

In the x-ray diagnosis of these cases many diverticula are undoubtedly overlooked when dependence is placed on the barium enema. Often the enema will distend the colon and the haustrations appear perfectly normal; however, if this colon is examined 24 hours later you may find dozens of small diverticula into which barium has gradually seeped. It appears that the necks of these diverticula are small, corresponding to the stem of a grape, and the enema may flow by these small openings and not distend the diverticula. Later, however, it gravitates into the diverticula and may then be easily recognized.

Personally, whenever I suspect a patient of having diverticulitis I always examine them 24 hours after the barium is given. Suspicious patients are those having lower left abdominal pain and have been described as left sided appendicitis. It seems that you can almost spot your patients with diverticulosis. They all have large fat abdomens, indefinite abdominal pain, and are usually past 40 years of age.

Dr. Boland's point about barium sulphate being of therapeutic value is absolutely true. These patients on

daily doses of barium (by daily I mean perhaps as much as 2 ounces every night before retiring) will have the diverticuli remain full of barium, with resulting subsidence in the inflammation, and they feel a great deal better. Many of them I have seen have been taking barium sulphate for many years. It keeps them comfortable and they feel well.

Dr. Lon Grove (Atlanta): I appreciate very much the discussion. I do not believe Dr. Clark meant to say diverticula are never seen in children because all the authorities report congenital diverticula but they are rare. If they are congenital they must, of course, occur in children.

One of our cases was in a child four and a half years of age. This is the youngest case we have been able to find on record.

There are one or two points in the management of these cases which I would like to emphasize. The principal one is that many of these patients are septic and very ill when seen and therefore require very careful management. Most of our patients have required one or more transfusions sometime during their illness. The convalescence is usually prolonged and any attempt to rush the treatment in an effort to dehospitalize them too early will be calculated to get one into trouble. One of our patients with multiple fistulae whom Dr. Clark followed with me, doing repeated x-ray studies was confined to the hospital for seven months requiring: first, temporary colostomy and drainage of the abscesses; second, closure of the fistulous tracts; third, a subsequent closure of the colostomy. One must proceed from one step to the other with caution giving the patients time to become rehabilitated between operations.

CLINICAL ASPECTS OF ULTRAVIOLET THERAPY

ETHEL M. LUCE-CLAUSEN, Rochester, N. Y. (*Journal A. M. A.*, July 23, 1938), concludes that the value of ultraviolet radiation in the prevention and cure of rickets and tetany is an accepted fact and has been proved indisputably to be both safe and specific if given under accepted conditions. In the treatment of fractures of bone, experimental evidence points to radiation as being of little if of any value. In the treatment of tuberculosis, no claims for the specificity of ultraviolet radiation have yet been substantiated, though many authors still regard irradiation as a useful aid to other forms of treatment. In the treatment of diseases of the skin of bacterial origin ultraviolet radiation may be of value, provided the organisms lie within the range to which the rays penetrate and are killed or attenuated by doses safe for the host. In other diseases of the skin such as psoriasis, beneficial results might be due to the effect of radiation in producing hyperemia. Tumors of the skin have been produced in rats and mice with prolonged exposure to ultraviolet radiation, but the exposures needed are so far outside the range in general use by man, either in sun bathing or in the use of rays from artificial sources, that a warning of danger seems unnecessary. A caution, however, to avoid the abuse of radiation therapy, since its effects on the skin are imperfectly understood, is completely justified.

ALTERED MECHANICS OF THE SUPPORTS OF THE FEMALE PERINEUM*

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The female perineum or inferior plane has been termed, by Robert Frank, the supporting apparatus and is accessory in its action to the superior plane or holding apparatus. Topographically, the female perineum is that portion of the anatomy which extends from the pubic bone in front to the coccyx behind and from one ischial tuberosity to the other. It may be represented in outline by a circle which passes through these points. The center of the circle corresponds with the location of the perineal body. The vagina and anus occupy para-central positions in the midline (Fig. 1). The supporting framework of the perineum is arranged in a crossbeam fashion, with a transverse and a sagittal support (Fig. 1). The transverse support consists of the superficial and deep transverse perinei muscles and their enveloping fascia. The sagittal support is composed of the levator ani muscles and their fascia and the urogenital trigone, or triangular ligament. The peripheral ends of the transverse supports are attached to the pelvic wall at the inferior ramus of the ischial bones and the central ends are interlaced at the midline in the perineal body with the vagina in front and the anus behind. The peripheral ends of the sagittal support are attached in front to the pubic bone and the tendinous arch of fascia which extends from the pubic ramus to the ischial spine, and behind to the coccyx, sacrum and the ano-coccygeal raphe, and in the center to the sphincter ani muscles, the perineal body and the vagina.

The perineum from an anatomical and a mechanical standpoint is divided into halves by a line joining the ischial tuberosities and passing between the vagina and anus (Fig. 2). The anterior half is called the urogenital region and the posterior half the anal region. The urogenital region contains the urethra and vagina and other external organs of generation. The anal region contains the anus, the ano-coccygeal raphe, the posterior fibers of

the levator ani muscles and fascia and the coccygeus muscles.

Further discussion in this paper will be limited to the urogenital region except that part of the anal region around the anus.

The urogenital region for descriptive purposes has been termed the urogenital trigone or triangle due to the shape and arrangement of the fascia of this region (Fig. 2). The fascia composing the urogenital trigone is arranged in layers, a superficial double layer and a deep double layer. The outer layer of the superficial double layer is mostly a fatty layer which is continuous with the superficial layer covering the entire body. The deep layer, called Colles fascia, is thin but strong and is limited in its extent to the urogenital trigone, except in front where it is continuous with the deep abdominal fascia, called Scarpa's fascia. The posterior border of this layer coincides with the base of the urogenital triangle and extends from one ischial tuberosity to the other. Its sides coincide with the tendinous arch of fascia which extends from the pubic ramus to the ischial tuberosity, thus forming a triangle in outline with the apex at the posterior pubic symphysis. The base passes through the perineal body. This layer of fascia envelopes the superficial transverse perinei muscles at its base as it curves up to join the inferior layer of the deep double layer of the urogenital trigone.

The deep fascia of the urogenital trigone has an intervening space between its double layers. This compartment or space contains important structures such as the deep transverse perinei muscles, the sphincter muscles of the urethra and the pudental nerves and vessels. The deep transverse perinei muscles are enveloped in the base of this layer in a similar manner as the superficial muscles are in the other layer. These two deep layers form the fibrous plates of the urogenital diaphragm or triangular ligament. The borders of these layers coincide with the borders of the superficial layers except at the apex, where they blend together to form a strong ligament, the transverse pelvic ligament. Medially and above, the upper layer joins the fascial covering on the under surface of the levator ani muscles.

The levator ani muscles are placed above the urogenital diaphragm and are enveloped

*Read before the Medical Association of Georgia, Augusta, April 28, 1938.

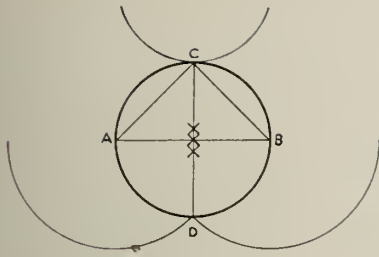


FIG. 1
TOPOGRAPHY OF THE PERINEAL REGION

A and B—Right and left ischial tuberosities. C—Pubic bone. D—Coccyx. The large circle circumscribes the perineal region. A, B, C, D, the anal segment, and A, B, C, D, the urogenital segment. A, B, C, D, transverse support; C, D, sagittal support. The perineal body is indicated by transverse support; C, D, sagittal supports. The vagina and anus are represented by the X's above and below the perineal body respectively.

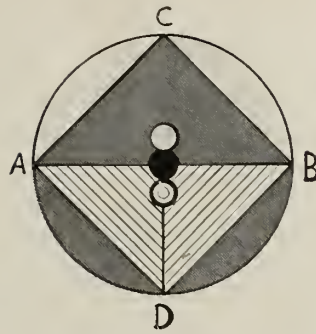


FIG. 2
PERINEAL SUPPORTS OR DIAPHRAGM

A-B-C, the urogenital trigone (the supporting fascia). A-B-D, the anal region. The levator ani muscle fibers are represented by the lines emerging from beneath the urogenital trigone and converging in the midline and to the coccyx. The perineal body is represented by the solid black figure in the center.

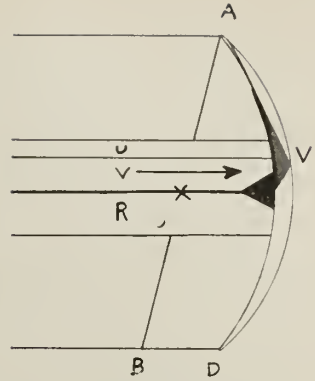


FIG. 3
SAGITTAL PLANES OF THE PELVIS
A-B, superior plane. A-D, inferior or perineal plane. The arrow indicates the direction of the expelling force during delivery. The perineal body is indicated by the wedge-shaped figure between the terminal, vaginal and rectal tubes.

in fascia. These muscles with their fascia form the greater part of the pelvic diaphragm which supports the pelvic viscera and constitutes the partition between the pelvis and the perineum. The levator ani muscles take their origin in front from the posterior surface of the superior pubic ramus, laterally to the symphysis, to the sides from the pelvic surface of the ischial spines and between these points it has an aponeurotic origin from the tendinous arch of the obturator fascia. The anterior or medial fibers which constitute the pubo-coccygeal part of the levator ani muscles, pass backward and medialward beside the urethra, the vaginal and anal canal, then upward to be inserted as a tendinous plate into the anterior surface of the third and fourth sacral segments. The lateral fibers of the levator ani muscles pass backward and medialward to be inserted into the perineal body, the sphincter ani muscles and join together in the median line to form a strong median raphe which extends from the anal canal to the tip of the coccyx.

The layer of fascia on the pelvic or upper surface of the levator ani and coccygeus muscles is the superior fascia of the pelvic diaphragm. Wherever a viscus passes through the pelvic diaphragm into the perineal region, the fascia is reflected upon the viscus to blend with the outer fibrous coats and in accordance with the viscus to which it is related, the fascia is termed vesicle, uterine, vaginal, or rectal layer of the endo-pelvic fascia.

It is thus seen that the anterior half of the perineal region, the urogenital region, is much more complicated in its structural formation than is the posterior half or anal region. Whereas in the anal region there are four layers—from without inward, the skin, the inferior fascia of the levator ani muscles, the muscles themselves, and the superior layer, in the anterior or urogenital region there are nine layers—the skin, superficial fascia, the transverse perinei, and sphincter muscles, the upper layer of the superior fascia, the two layers of the deep fascia, the levator muscles and their two layers of fascia.

The urethra and vagina pass through these layers of fascia and muscles in the urogenital region and the anterior rectal wall and sphincter ani muscles are directly related to them. Each tube as it makes its exit through these layers gathers fascial fibers which reinforce its walls and form strong supports to hold the tubes in their normal relationship one with the other, and help preserve their functional integrity.

The perineal body is a wedge-shaped structure placed between the terminal ends of the vagina and rectum, in the center of the perineal region (Fig. 3). It is composed of the inserting fibers of the principal fascial and muscular components of the perineal region. It is the hub which receives the spokes or supporting framework of the perineal wheel. It is then directly connected with the superficial and deep transverse perinei muscles and

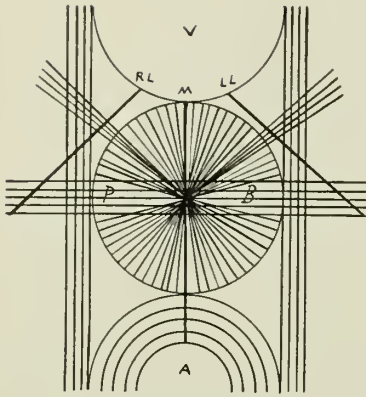


FIG. 4
PERINEAL BODY (ENLARGED)
The radiating lines in the perineal body indicate diagrammatically the converging and interlacing fibers of the levator ani and transverse perineal muscles. The parallel lines on each side represent the fibers of the pubo-coccygeus muscles as they pass back beside the vagina, the perineal body and the rectum. The heavy lines, RL, MA, and LL indicate the sites of tears during delivery.

their fascia, the levator ani muscles and fascia and the vagina in front and the anus behind (Fig. 4).

A working knowledge of the mechanics of these structures is necessary for the surgeon to know how to correct any alteration in their mechanical arrangement. The perineal body serves the purpose of a central receiving station where all the supporting structures of the perineum converge, and to support the lower ends of the vagina and rectum, to hold them in their respective positions and to protect the posterior vaginal and anterior rectal walls during childbirth.

The transverse perineal muscles and their fascia support these tubes in the midline and prevent them from swinging from side to side. The levator ani muscles and their fascia and the triangular ligament hold them in their midposition and prevent them from sliding backward and forward. It should be remembered that fascia supports and that muscles produce motion, hence the supports to these structures are composed mainly of the urogenital fascia. The levator ani muscles act as elevators to the anus and aid in defecation. The transverse perineal muscles have very little action. The circular muscle fibers immediately around the lower ends of the urethra, vagina and rectum are sphincteric in action and thus allow these tubes to open and close.

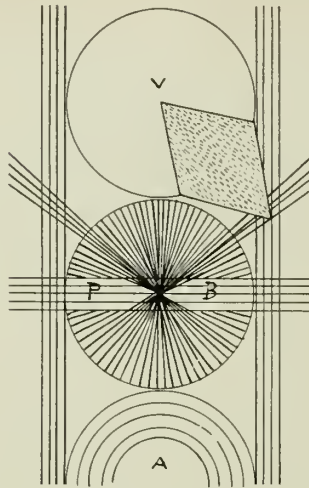


FIG. 5
LATERAL TEAR IN ITS RELATION TO THE PERINEAL BODY
The diamond shaped area indicates the extent and outline of a tear at the time of tearing.

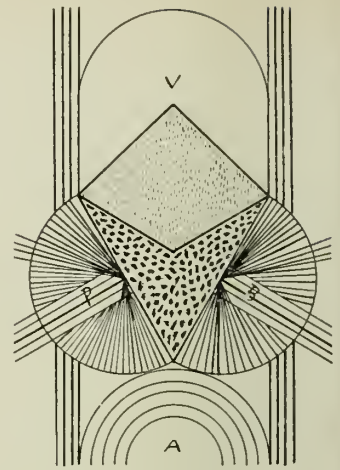


FIG. 6
MEDIAN TEAR (Through the Anterior Segment of the Perineal Body and Posterior Vaginal Wall)
The dotted and mottled areas indicate the outline and extent of the tear at the time of tearing.

The fascial fibers which intervene between the urethra and bladder and vagina, the vesico-vaginal fascia prevent these structures from herniating, and those between the vagina and rectum, the recto-vaginal fascia, serve to maintain the continuity of the anterior rectal and the posterior vaginal walls.

One or more of these supporting structures may be damaged as the result of childbirth or trauma otherwise or disease, in which case there is altered function. The degree of disability depends upon the extent of the trauma and the structure involved. Muscles may be damaged with resultant altered muscle action or fascia may be damaged with altered supporting power or both fascia and muscles may be damaged with altered mechanics of both. The perineal body may be torn either partially or completely or the tear may extend through the sphincter ani muscles into the rectal wall. The structures damaged in such a tear may be listed as follows: the skin, the perineal body, the posterior vaginal wall, the recto-vaginal fascia, the sphincter ani muscles and the anterior rectal wall. There may be a tear in which the perineal body is not affected, such as lateral tears. A lateral tear may be slight in which only the vaginal wall and skin are damaged, or it may extend into the deep structures in which the fascia of the urogenital trigone, the levator ani muscles and fascia are damaged (Fig. 5). The tear

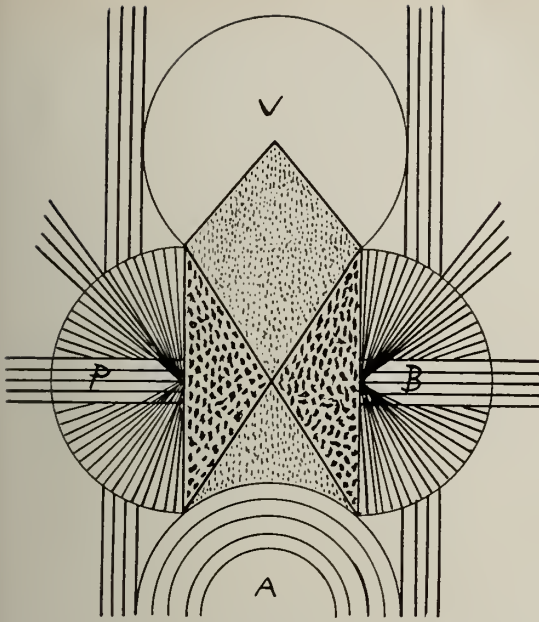


FIG. 7
MEDIAN TEAR (Through the Perineal Body Down to the Sphincter Ani Muscles)
The torn segments of the perineal body are pulled apart as indicated by the mottled area. The extent and outline of the tear is indicated by the dotted and mottled areas.

may extend deep enough to damage the transverse perinei muscle and its fascia.

A slight tear may not cause any demonstrable alteration in the mechanics of the structures because the supports are not damaged. Many times these supports are damaged although there is no visible tear. The urethro-vesico-vaginal septum is often damaged with hernia of the urethra or bladder into the vagina, urethrocele or cystocele. The same is true of the rectovaginal fascia with rectocele resulting although there was no tear in the vaginal wall. Many times the deeper structures such as the urogenital fascia, the levator ani muscle and fascia, and the perineal body are torn without any surface tear, with marked mechanical alteration resulting.

A tear in the perineal body causes altered function in proportion to the depth of the tear. If the tear extends only partially through the perineal body, the segments will be only partially separated, or not at all (Fig. 6). If, however, the tear extends completely through this structure the right and left segments will be drawn apart with marked deformity and destroyed function (Fig. 7). If the tear extends through the sphincter ani muscles and the anterior rectal wall, fecal incontinence will result (Fig. 8). In this type tear, the ends of the sphincter muscles re-

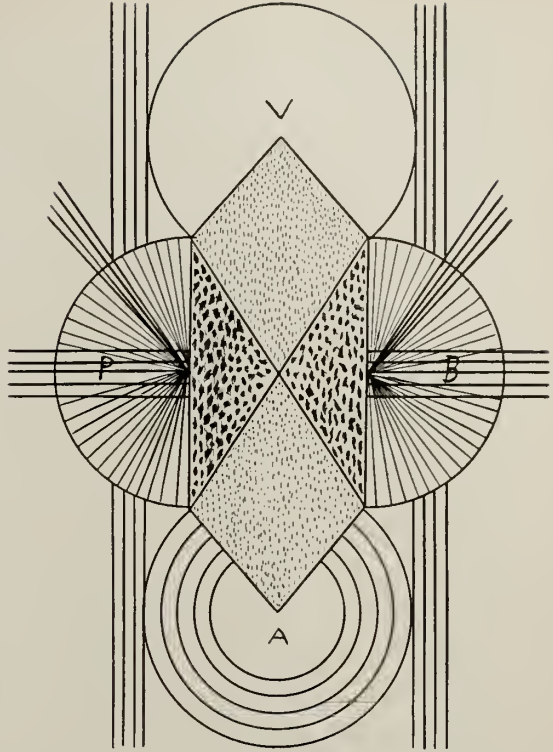


FIG. 8
MEDIAN TEAR (Through the Perineal Body and Anterior Rectal Wall and Sphincter Ani Muscle Fibers)
The two triangular areas represent the torn perineal body segments which are drawn apart. The two irregular diamond shaped areas indicate the outline of the tears in the posterior vaginal and anterior rectal walls and perineal space.

tract, the transverse perinei and levator ani fibers retract and carry with them the segments of the perineal body. The function of these muscles is partially destroyed because they have lost their main anchoring support for their inserting fibers. The transverse beam of the inferior plane is broken in the center, the sagittal support is weakened, and the inferior plane or supporting apparatus has lost its integrity.

The surgical correction of these defects should be based upon the foregoing principles of mechanics, and the affected structures or supports restored according to these principles. The operator has little difficulty in approximating these supports if the repair is done at the time they are torn, i.e., immediately after delivery. The torn parts fall back together after delivery and if held with properly placed sutures, very little or no damage to the supports will result. If the supports are not restored and secured by sutures, the parts separate, the muscles retract and scar tissue covers over the raw surface, the normal rela-

tionship of torn segments is markedly altered and function is impaired or destroyed.

The purpose of the interval operation is to restore the normal relationship of these structures in order that normal function may be maintained or regained.

It is not the purpose of this paper to describe methods of treatment or to trace the technical steps usually taken. An effort has been made to establish a principle for guidance based upon mechanics, regardless of method or technic used. In a subsequent paper it is planned to discuss the treatment of altered mechanics of the pelvic and perineal supports based upon mechanical principles.

The reader is referred to a paper entitled "Altered Mechanics of the Female Pelvic Structures" which I read before the section on Gynecology at the Southern Medical Association meeting in New Orleans last December and which will be published sometime during the year in *The Journal of the Southern Medical Association*. These two papers should be incorporated into one since this latter paper is a continuation of the former. In discussing treatment, both will be covered.

DISCUSSION ON PAPER OF DR. B. T. BEASLEY

Dr. Olin H. Weaver (Macon): Dr. Beasley has made a splendid presentation of this subject, and his diagrams are most illuminating. Unfortunately, or fortunately as the case may be, there is really nothing to discuss in Dr. Beasley's paper. He presented here very succinctly and clearly the anatomy and mechanics, of the pelvic supports and there is nothing that I can add except to thank Dr. Beasley. I think it is a very important subject and he is to be congratulated on this splendid presentation.

CYSTICERCUS CELLULOSAE OF THE BRAIN: REPORT OF TWO AUTOPSIES

Not only is cysticercus cellulosae rare but its lesions are so distributed, and at times so few, that premortem diagnosis is often extremely difficult. The condition may be revealed only at the necropsy table. The frequency with which cysticerci are found in the nervous system in those otherwise infested with the disease is reported variously by different authors. CLARENCE C. HARE, New York (*Journal A. M. A.*, Aug. 6, 1938) reports two cases of long-standing cysticercus infestation of the brain encountered at the Neurological Institute of New York. In one of the cases the parenchyma, meninges and fourth ventricle of the brain were involved, and in the other case there was a cysticercus of the fourth ventricle with an accompanying chronic basilar leptomeningitis.

PROBLEM BEHAVIOR IN CHILDREN IS SYMPTOMATIC*

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Atlanta

In general medicine we are confronted with isolated reactions of various elements in the body: such reactions as elevation in temperature, increase in leukocytes, pain in specific regions, and so on. In considering these part reactions we do not treat the reactions themselves but consider them as symptomatic of underlying causes. These underlying causes are the point of attack. The same principles hold good for the behavior of the individual as a whole. Types of behavior which deviate from average are really symptomatic of some underlying cause or causes and our point of attack should not be the behavior, per se, but the factors which are resulting in these types of behavior. What are the principles involved in problem behavior?

The most priceless gift which the parent may give to the child is warmth of affection because this, and this alone, gives the child a sense of security. A feeling of security is the most important factor in starting the child in his growth toward a well-adjusted adulthood. A sense of security comes from a feeling of belonging; it is a matter of "who one is." Conversely, insecurity is one of the most devastating factors in life and the most important in interfering with proper growth, organization, and maturity.

Insecurity comes primarily as the result of rejection on the part of the parent. Such rejection is all too common and constitutes one of the major factors in the question of problem behavior. Such rejection may be conscious or unconscious, more frequently the latter. If conscious, the mother very definitely states that, after all, she did not want this child. Interestingly enough, conscious rejection is the less dangerous of the two because then the parent may act in a consciously intelligent way toward the child in the realization of this fact. Rejection remains unconscious because the sense of guilt thus created makes the idea too painful to accept. This sense of guilt in turn causes the parent to overdo the

*Alternate on the program for the annual session of the Medical Association of Georgia, Augusta, April 27-29, 1938.

business of mothering in atonement, to the detriment of the child's future maturity. There is a constant swing from expressions of hostility unconsciously motivated by the rejection to over-mothering as a gesture of atonement. Insecurity also may be engendered by strife between parents and the constant threat of separation; by division of authority and conflict in the presence of the child over methods of discipline.

Hypothecating that the child has been started with a real feeling of belonging, with a true sense of security, this security must be maintained during the process of growth. In order to discuss this point, something must be said of the theoretical aspects of the psychology of growth because after all growth is not entirely a matter of adding increments in weight or even the learning to do new things. At birth the child is completely omnipotent. He dominates his entire environment and with a cry he has his whole world catering to his needs. He is more comfortable, more secure than he will ever be again. Growth means that he must give up this omnipotence, this comfort in reliance on others and must assume more and more responsibility for himself. Such adventures into new experiences is accompanied by anxiety (fear) because the unknown tends to create anxiety, and consequently he resists growing and tries in every way to continue his domination. Thus growth becomes a struggle between the child and the parent; the child trying to dominate by various types of behavior, the parent attempting to make him assume fresh responsibilities. When the parent feels inadequate then the child manages to dominate by this or that type of behavior and such "bad" behavior then tends to become habitual.

Because growing up tends to be accompanied by anxiety which in turn makes for insecurity, growing should be made as comfortable as possible. This means that at every step in the process the child should know his definite limitations; should have concise rules laid down for him. These are not necessarily stated but implied. These boundaries should be enlarged as the child grows older until finally he assumes complete responsibility for himself. This means that the most important factor in the maintenance of

security is consistency in the environment. This means that the parent should always take the same attitude; do the same thing under the same circumstances; and that there should never be evident conflict in authority. The most devastating attitude that one can take is, "I have tried everything I know how and nothing seems to work."

In adulthood fear is the most powerful factor in disintegration of the person. So in childhood fear is the most important factor in interfering with that organization which is the necessary component of proper growth. Consequently, the child who starts with insecurity or who is made insecure by inconsistencies in his adult environment tends to lack proper organization. The behavior thus resulting is quite symptomatic of this very insecurity and unorganization. It is unorganized behavior. Such a child may tear up things. This is not purposive destruction but is the sudden release of the accumulated tension of anxiety. He may throw things but the throwing lacks direction. He may have temper tantrums or may be so unorganized that his behavior at times simulates chorea. Such behavior, if it gets attention, may sooner or later become attention-getting behavior.

How would one handle this type of behavior? One must bear in mind the original statement: that, behavior is symptomatic. To punish such a child is wrong because the child tends to interpret punishment on a personal basis. Thus punishment represents to him an expression of rejection and rejection in turn increases his insecurity. Thus by punishment one tends to defeat one's purposes and in fact make bad matters worse. The attack should be made upon the underlying cause: insecurity. Inconsistencies in his environment should be looked for and eliminated and every effort made to make this environment less confusing, more consistent.

The next factor entering into the growing child's life is the matter of adequacy. Feelings of adequacy come from what you can do and what you have. Inadequacy may be real or merely felt. Of course, there are a certain number of children who have definite physical or mental inadequacies. They must have more or less special handling. On the

other hand there are a certain number of children who are really perfectly adequate but for one reason or another have acquired feelings of inadequacy. Of course, the child who starts off with feelings of insecurity must of necessity feel inadequate because he is afraid to try doing things. The general attitude in our culture that "all men are born equal" and consequently every child born has limitless possibilities is responsible for a great deal of these feelings of inadequacy. This is a fallacy, because we all have varying qualities and qualifications and we all have our limitations. When a child starts out with this idea, held also by the parents, and he feels he does not do everything well, he immediately begins to get feelings of inadequacy. The best way to make a child feel inadequate is to criticize and one of the worst things which parents do is to say "You could do it, if you would. You're just lazy." Or to use any form of "shaming" as a spur. The results accomplished are just the opposite and one defeats one's purposes by these methods or by making comparisons.

Again, the type of behavior in a child who feels inadequate is quite symptomatic. Remember, adequacy comes from what you can do and what you have. So this type of child overcompensates to make himself appear somebody. He dramatizes himself. He accumulates things. So we find that he indulges in bullying, telling exaggerated tales, purposeful destructiveness, non-conformity with the group on the one hand in order to be somebody and taking other people's property to possess things, on the other.

Should such behavior call for punishment? In many instances, yes, because the child should realize that anti-social behavior is unacceptable. On the other hand, punishment alone is not only not going to solve the problem but will make it worse in many instances. Constant punishment tends to stand for rejection and this in turn makes for greater feelings of inadequacy. Again, we must remember that the behavior is symptomatic and must deal with the underlying cause: feelings of inadequacy.

Both adequacy and inadequacy have an interesting faculty which is called their "spreading quality." If one feels very inadequate at

one point in one's make-up, one is apt to feel inadequate at all points. Conversely, if one feels quite adequate at one point, one tends to feel adequate at all points. Consequently, in building up feelings of adequacy, one of two things are done. A search is made for real strengths: things done fairly well, and the child is taught to build up these strengths or do these things unusually well. If no particular strengths are found, then one or more are created, particularly those types of activities which more or less symbolize adequacy. For instance, teaching a boy to box well since boxing symbolizes adequacy is a good example. It is astounding to see how often anti-social behavior disappears of itself when the child takes on a greater sense of adequacy.

So in the handling of problem behavior one must remember that such behavior is symptomatic. One must then make one's diagnosis on the basis of these symptoms. Lastly, the treatment must be aimed, not at the symptoms but at the underlying causes determined by the diagnosis.

TO THE MEMBERS OF THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION

In compliance with the official request of members of the Board of Trustees that the House of Delegates be convened in Special Session, I, as Speaker, under authority of Chapter III, Section 2, of the By-Laws hereby officially call the House of Delegates of the American Medical Association to convene in Special Session in the City of Chicago, State of Illinois, at 10:00 a. m., Daylight Saving Time, on the sixteenth day of September, 1938.

The business to be transacted at this Special Session shall be limited to the consideration of the national health program submitted to the National Health Conference recently held in Washington and to such other matters as may be submitted to the House of Delegates by the Board of Trustees.

The House shall remain in session, recessing from day to day, until its deliberations are concluded.

This call is issued August 26, 1938.

H. H. SHOULDERS, M.D.,
Speaker, House of Delegates,
American Medical Association.

SOLUTION OF ZINC-INSULIN CRYSTALS VERSUS REGULAR INSULIN AND PROTAMINE ZINC INSULIN*

HAROLD BOWCOCK, M.D.
CHARLES WILKINSON, M.D.
Atlanta

Solution of Zinc-Insulin Crystals has just become available as a therapeutic agent after a period of clinical investigation; it was called Crystalline Insulin in the reports published during the investigation period.¹ It is the purpose of this brief report to illustrate some of the characteristics and uses of the product by comparison with other insulin preparations.

The author's experience with Solution of Zinc-Insulin Crystals began during the summer of 1936, during the same interval when plain protamine insulin, calcium protamine insulin and protamine zinc insulin were under trial. During August and September, 1936, a ward of Emory University Hospital and a special clinical laboratory were equipped for the intensive study of the various experimental insulin products† in the treatment of diabetes in children. The children were reviewed by Dr. William Willis Anderson from the standpoint of immunity reactions: typhoid vaccine, smallpox vaccination, Schick and Dick tests. Dr. P. H. Jones made the dental surveys and Dr. Sam G. Cole examined the dental arch structure and occlusion. Insulin indurations and "insulin lumps," and areas of subcutaneous fatty atrophy were looked for. Roentgen-ray examinations of the lungs, abdomen and extremities were made when indicated; to rule out tuberculosis in those children who had suffered diabetic coma; to verify clinical examination of an abdomen made large by fatty infiltration of the liver; and to rule out suspected arteriosclerotic changes in the extremities. (Adult diabetic patients were treated elsewhere in the hospital.) Unavoidable circumstances prevented the publication of the experimental results until such a time that subsequent de-

velopments rendered publication of many of the results unnecessary. The circumstances accompanying the release of Solution of Zinc-Insulin Crystals‡ justify the present report.

Zinc-Insulin Crystals in pure form, ready for solution, are of the rhombohedral type (Fig. 1). The zinc is probably present in true chemical combination in a theoretical amount of 0.4 per cent. (Amorphous insulin = regular insulin, contains varying amount of zinc.) Zinc-Insulin Crystals are more insoluble than amorphous insulin to the alkaline side of the former's iso-electric point. The nitrogen content of Zinc-Insulin Crystals is about 15 per cent. Assay for biologic effect gives a result of about 22 International Units per 1 milligram of crystals.

Solution of Zinc-Insulin Crystals is an acid solution (in dilute hydrochloride acid, pH 2.7, to which is added 0.1 per cent tricresol as a preservative, and 1.5 per cent glycerol to make the solution isotonic) of Zinc-Insulin Crystals; it is water clear; the strength is 40 units of insulin to each cubic centimeter. The solution as distributed is stable at room temperature; at 40° C., (104° F.) there is little or no deterioration of activity at the end of 16 months. The package literature accompanying the commercial product states that Solution of Zinc Insulin Crystals may be used to advantage by patients who are allergic to regular insulin (= unmodified insulin, ordinary insulin, amorphous insulin).

The following illustrative case reports are spectacular in their results; they are *not* typical of the results which may be regularly anticipated, but they show what *can* be accomplished occasionally with attention to diet, insulin and accessory therapy. The reports prove that better results may be anticipated from the use of the newer insulin preparations than with unmodified insulin (= regular insulin, ordinary insulin). It should be stated that: (1) it is accepted as sound diabetic therapy to allow the excretion of 10 grams of urinary sugar daily during the modified insulin treatment of the diabetic child who is receiving a diet containing 150 grams of carbohydrate; and 15 grams of sugar if the carbohydrate exceeds 200 or 250 grams. This margin takes care of unusual activity, pre-

*From the Department of Medicine of Emory University Hospital and Emory University School of Medicine, Emory University.

†Experimental crystalline insulin was furnished by Frederick Stearns & Co., Detroit; plain protamine insulin, calcium protamine insulin, zinc protamine insulin and unmodified insulin were furnished by Eli Lilly and Co., Indianapolis, Ind., and E. R. Squibb & Sons, New York City.

‡See editorial comment in this issue of *The Journal*.

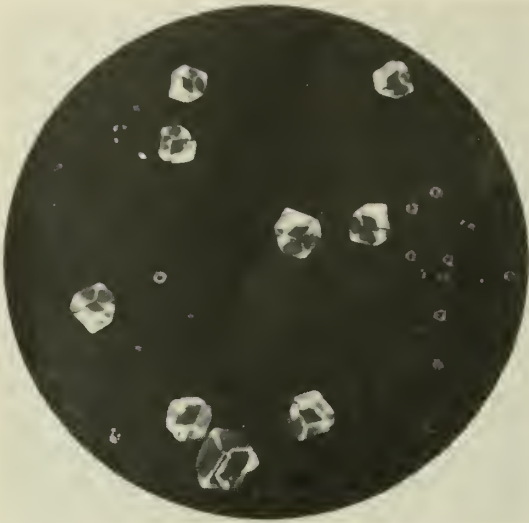


FIG. 1
Photomicrograph of Zinc-Insulin Crystals
prepared by Dr. Melville Sahyun

vents the lassitude resulting from low blood sugar in the child, and tends to prevent insulin reactions. Quantitative determinations should be made by the physician, or by the family with the simple Sheftel² quantitative outfit. (2) An isocaloric (= same number of calories) change of diet from a low carbohydrate-high fat ratio to one with a high carbohydrate-low fat ratio permits usually a decrease of the insulin dose of the previously well controlled diabetic. (3) Periods of hypoglycemia (blood sugar too low) tend to induce a corrective hyperglycemia (blood sugar high) of varying degree³ in insulin treated patients. This response seems to be more marked with the modified slow acting insulins. The recognition of hypoglycemia by blood sugar determinations is consequently of importance. Sometimes it is possible to abolish a previous postprandial (after food) glycosuria by *reducing* the insulin dose. We have termed this effect the "protamine paradox" because it is most striking with the use of protamine zinc insulin and because it is paradoxical to relieve glycosuria by reducing the insulin dose; it occurs, however, with regular insulin and Solution of Zinc-Insulin Crystals, likewise. (4) The administration of sodium chloride, sodium bicarbonate or sodium citrate in moderate amounts permits a decrease in insulin dose.⁴

Dr. Russell M. Wilder of the Mayo Clinic has been kind enough to permit us the use of

two of his unpublished figures which show the effects of various types of insulin; these were made during 1936. The broken lines were added by the authors.

Fig. II—Shows the effects on the same fasting individual, possibly at appropriate intervals, of the same dose of regular (unmodified or ordinary insulin); Crystalline Insulin (Solution of Zinc-Insulin Crystals) and protamine zinc insulin. The influence of each preparation was permitted to progress to about the same hypoglycemic level before the administration of 100 grams of orange juice in two divided doses. It will be seen, if one measures the scale drawing with dividers, that Solution of Zinc-Insulin Crystals acts as promptly as ordinary insulin; the maximum hypoglycemic effects of both is reached in less than 4 hours (Crystalline appears to be faster but it started work at a lower fasting level). Protamine zinc insulin works for almost 22 hours before depressing the blood sugar to the same level; it started at a higher fasting level. The abruptness of the hyperglycemic response to orange juice is the most striking with protamine zinc insulin, but it follows a hypoglycemic period of about 13 hours, whereas with ordinary insulin and Crystalline, the hypoglycemia lasted about 8 and 9 hours, respectively.

Fig. III—Shows a duration of Crystalline activity of about 19 hours or more after one injection. Unfortunately the dose of Crystalline was too large and produced hypoglycemia; this probably accounts in part for the rapid and marked secondary rise in the blood sugar level.

Case Reports

Case I. S. D., female, aged 13, height 54 inches, weight 112 pounds, had had diabetes for 2½ years—she has a diabetic cousin. At the onset of her illness she had remained in a hospital for 2 months, receiving regular insulin; she had had one insulin reaction during hospitalization; since then she had had 4 or 5 mild reactions. She had gained 10 pounds during the past 5 months. She was taking a diet of C-88 Gm.; P-57 Gm.; F-110 Gm. for a total of 1570 cal., with three doses of regular insulin, a total of 40 units daily, arranged before the three meals in proportions of 20-10-10. She was admitted to the Diabetes Ward Aug 19, 1936. Two out of three specimens of urine showed a trace of sugar on the evening of admission. Her physical examination was normal. She had been successfully vaccinated. Her Schick and Dick tests were

Fig. II

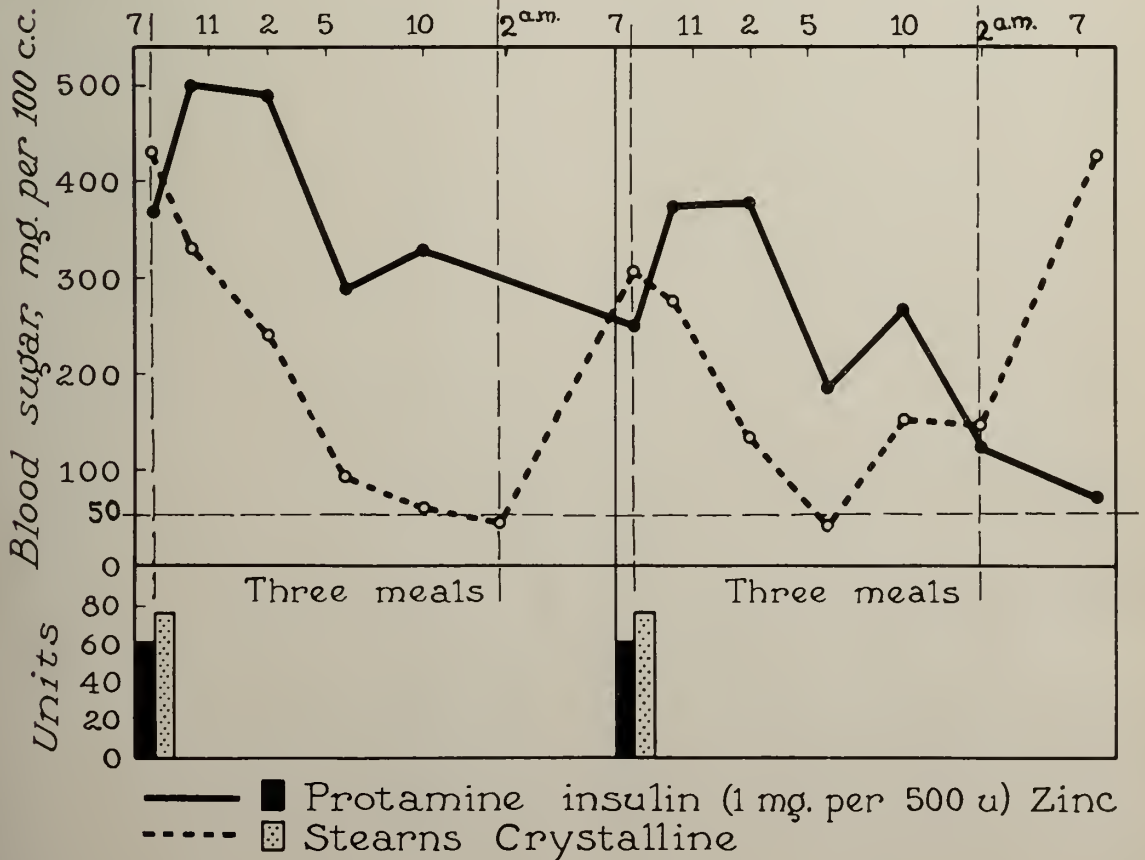
Hours



Fig. III

R.J.A. Male, age 13 yrs. Diet: C101, P72, F128

Hours



negative. Her dental survey showed healthy gums, 4 filled cavities, mal-occlusion, Class II. Division I. There were no insulin indurations, lumps or subcutaneous fatty atrophies and the liver was not enlarged on physical examination. Her diet was changed to C-150 Gm.; P-75 Gm.; F-90 Gm. yielding 1710 cal., with plain protamine insulin 35 units each morning before breakfast and an order for 5 units of regular insulin for every red Benedict's urinary sugar test; she required one dose of the latter the first day, and not again. Every specimen of urine was tested separately for sugar throughout the entire hospital study. By Aug. 24, 1936, all specimens were sugar-free and that day she had two mild insulin reactions. With the same diet she was changed to a single morning dose of 32 units of Crystalline Insulin (Stearns. Solution of Zinc-Insulin Crystals), later decreased to 30 units daily. On Aug. 30, 1936, blood sugar determinations fasting, at noon, 4 p. m., 8 p. m., midnight and 4 a. m. were 0.174, 0.068, 0.091, 0.128, 0.109 and 0.109, respectively. During that day six specimens of urine were voided and tested. The fasting specimen was green, as was the specimen at 1:30 p. m. (1½ hours after the hypoglycemic reading of 0.068 at noon and lunch at 12:30); the other four specimens were sugar-free. She was discharged Sept. 1, 1936, weighing 110 pounds and was advised to continue with the same diet and 30 units of Crystalline (Solution of Zinc-Insulin Crystals) once daily. It was thought that this slight overdosage would be compensated for by irregularities of diet control at home. Her hospital physical activity had been essentially normal. The carbohydrate of the diet had been increased 70 per cent, the calories about 10 per cent and the units of insulin had been reduced 25 per cent and the number of doses, two.

Case 2. W. M., male, aged 9, height 53¾ inches, weight 64 pounds, had had diabetes for 7 months. There was no history of diabetes in the family. His diet had been C-115 Gm.; P-40 Gm.; F-80 Gm.; yielding 1340 cal., with three doses of regular insulin, 10-6-8 for a total of 24 units daily. He had been sugar-free most of the time, had had a few insulin reactions accompanied by crying, but was apathetic and listless. Upon admission to the Diabetes Ward Aug. 15, 1936, his physical examination was normal—he had been successfully vaccinated against smallpox; other immunity reactions were negative. His mouth showed healthy gums, no fillings and no cavities. There was mal-occlusion with bi-maxillary protrusion. His diet was changed to C-150 Gm.; P-84 Gm.; F-88 Gm. for a total of 1728 calories accompanied by 20 units of plain protamine insulin in one dose each morning. During six days his urinary sugar excretion varied between 5 and 7.1 grams in each 24 hours. An equal dose of protamine zinc insulin caused an insulin reaction at 3:30 a. m., and he was transferred to 18 units of calcium protamine insulin in one dose with a daily excretion of about 2 Gm. of sugar. On Aug. 25, 1936, his diet was increased to C-170 Gm.; P-84 Gm.; F-88 Gm.; cal.—1808. This routine was followed with good control until Aug. 29, when he was changed to a high carbohydrate, low fat regime with C-254 Gm.; P-84 Gm.; F-53 Gm.; cal.—

1829, with a single daily dose of 14 units of Crystalline, Vitamin A. B. D. capsule once daily, and 20 grains of sodium chloride three times daily. The diet was changed on Sept. 3, 1936 to C-268 Gm.; P-90 Gm.; F-27 Gm.; cal.—1675. He was given "Lister's Golden Spread" which is like butter but has no food value. The dose of Crystalline was reduced to 10 units once daily and on Sept. 4, blood sugar values at 8 a. m., 11:45 a. m., 1:45 p. m. and 3:30 p. m. were 0.079; 0.082; 0.141; 0.152, milligrams per cent respectively. The Crystalline dose was decreased to 8 units and then to 5 units daily, with which dosages there was still satisfactory control. On Sept. 18, insulin was omitted; six subsequent specimens of urine during a period of 9 hours up to 4:30 p. m. contained 7.6 grams of sugar. Consequently, the dose of 5 units of Crystalline daily was resumed without change of diet. The weight was 67 pounds. The carbohydrate of the diet had been increased 133 per cent, the total calories 25 per cent, accompanied by a decrease of two doses of insulin and an 80 per cent reduction of units. Upon returning home, control was not as good because of carelessness in maintaining the low fat quota.

Equally spectacular results *may* be obtained with protamine insulin:

Case 3. J. D. D., female, aged 64, weight 168 pounds, had had diabetes for several years. During June, 1936, while receiving a diet of C-160 Gm.; P-85 Gm.; F-104 Gm.; cal.—1916, during the treatment of an afebrile pyelitis she had required 60 units of regular insulin in 4 doses to secure control. She had been discharged from the hospital with a smaller diet with a combination of protamine and regular insulins. She was admitted to the Emory University Hospital for study Aug. 26, 1936. The physical examination showed obesity, arteriosclerosis and moderate hypertension. She had been on a diet of C-100 Gm.; P-70 Gm.; F-90 Gm.; cal.—1690, with 30 units of plain protamine insulin and a simultaneous dose of regular insulin of 10 units daily. On this routine her blood sugar and urine control were normal. On Aug. 29, the diet was increased to C-150 Gm.; P-70 Gm.; F-70 Gm.; cal.—1610; the regular insulin was omitted and the plain protamine insulin was replaced by one dose of 30 units of calcium protamine insulin daily. On Sept. 1, sodium chloride, 30 grains three times daily was added to the routine. The insulin dose was reduced gradually. On Sept. 15, while taking a single dose of 10 units of calcium protamine insulin daily, sodium chloride was replaced by 45 grains of sodium bicarbonate three times daily. The blood sugar and urine control were perfect and on Sept. 17, the calcium protamine insulin dose was reduced to a single dose of 5 units daily. She was discharged on this routine Sept. 24, 1936, weighing 166 pounds. All specimens of urine had been sugar-free for 8 days; frequent 24 hour blood sugar curves had been normal. This represents an increase of 50 per cent in carbohydrate, a decrease of 11 per cent in total calories, a decrease of one insulin injection and 87 per cent in units.

An illustrative example of the influence of the "protamine paradox" is described because

the phenomenon has significance in the use of all types of insulin:

Case 4. A. T. H., female, aged 21, had had diabetes since the age of 6½ years. Her early progress on protamine insulin had been reported.⁵ She was admitted to the University Hospital June 15, 1936, weighing 126 pounds, height 59 inches, while receiving a diet of C-140 Gm.; P-70 Gm.; F-50 Gm.; cal.—1590 and regular insulin 32 units each morning, and plain protamine insulin, 36 units each evening. Her diet was changed to C-150 Gm.; P-69 Gm.; F-42 Gm.; cal.—1254, with the purpose of reducing weight. The insulin routine was changed to 60 units of protamine zinc insulin with 20 additional units of regular insulin, simultaneously. Several changes were made in the insulin routine but she never attained perfect control. The morning fasting specimen was always sugar-free and specimens shortly before midnight were sugar-free, but during the day the urine tests varied between green, orange and red. Nocturnal blood sugars were at midnight, 4 a. m. and 8 a. m.: 0.056; 0.053; 0.067 milligrams per cent respectively; with the first reading there was a mild sensation of an insulin reaction without the administration of an antidote. She was discharged, not sugar-free, but with good urine sugar control while receiving 76 units of calcium protamine insulin and 20 units of regular insulin each morning. She was admitted to the Diabetes Ward Sept. 1, 1936 on this routine. Physical examination was normal except for regional obesity and a protuberant abdomen. Roentgen-ray examination showed enlargement of the liver still present but a marked improvement over previous examinations. Dr. Clinton C. Howard reported mal-occlusion Class I, impacted upper cuspid (these were brought to proper relationship through orthodontic mechanical assistance). Regular insulin was omitted and the first day she received the same diet and 80 units of plain protamine insulin and excreted 44 grams of sugar; the second day there was less sugar; the third day she received 70 units of plain protamine insulin, experiencing an insulin reaction at 9:40 p. m. and 11:30 p. m. For the two following days she received 60 units of plain protamine insulin, excreting 1.4 Gm. sugar in 24 hours. She was discharged with this diet and insulin dose; the latter was reduced to 54 units and later changed to protamine zinc insulin with good control. Her weight on discharge was 124½ pounds. The carbohydrate of the diet was unchanged, the total calories were unchanged, regular insulin had been omitted decreasing the number of injections by one, and the insulin units had been reduced 44 per cent in order to prevent hypoglycemia and thus secure good control.

Conclusions

1. Solution of Zinc-Insulin Crystals produces its effect as promptly as regular insulin.

2. Solution of Zinc-Insulin Crystals has a duration of activity of 12 hours or more, and may be classed as prolonged acting insulin.

3. Solution of Zinc-Insulin Crystals may be used to secure good control with one injection, replacing several injections of regular insulin in appropriate cases.

4. Overdosage with the prolonged acting insulins produces relative or absolute hypoglycemia with frequent failure to secure good control of diabetes; the hyperglycemia and glycosuria resulting from overdosage hypoglycemia can be abolished often and good control secured by appropriate reduction of the insulin dosage. We choose to term this paradox the protamine paradox.

5. The dosage of Solution of Zinc-Insulin Crystals (a prolonged acting insulin), should be scrutinized from the viewpoint of the phenomena of the protamine paradox for the attainment of successful control of diabetes.

6. When recording the results of clinical investigations, attention should be called to special procedures which may yield unusual or spectacular results in order to prevent undue enthusiasm and resulting disappointment of the reader.

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Using the gravimetric method of Venning, HOWARD W. JONES and PAUL G. WEIL, Baltimore (*Journal A. M. A.*, Aug. 6, 1938), studied the excretion of pregnanediol in a case of early pregnancy in which the corpus luteum of pregnancy was removed fifty-eight days after the last menstrual period. Abortion did not take place. Following this operation, the daily urinary content of pregnanediol, an excretion product of progesterone, was determined. Progesterone is probably produced by the placenta, beginning, in this case at least, at about the end of the second month.

A MINIMUM MEDICAL AND SURGICAL FEE SCHEDULE*

Covering professional services to injured workmen who come under the provisions of the Georgia Workmen's Compensation Act and its Amendments.

Formulated by a Sub-Committee on Medical Economics of the Medical Association of Georgia, appointed by the President of the Association upon authority granted by the House of Delegates in session assembled at Macon, May 11, 1937, approved by the Committee on Medical Economics and adopted by the Council of the Medical Association of Georgia in official session at Atlanta, June 16, 1937.

This is a minimum fee schedule and is not to be construed as conflicting with existing or contemplated arrangements between doctors, insurance carriers and/or employers, where such arrangements meet with the approval of the Medical Association of Georgia or its Council.

Charges not enumerated herein are to be reasonable and are to be by arrangement and agreement.

MISCELLANEOUS

| | |
|-------------------------------------------------------------------------------------------------------------------------------------|---------|
| FIRST AID: This includes strapping back, treatment of minor joint injuries, 2 or 3 sutures | \$ 3.00 |
| For long lacerated and incised wounds requiring 8 or 10 sutures | 5.00 |
| Hospital or Home Visits, each | 3.00 |
| Night visits, 8 P.M. to 7 A.M. | 5.00 |
| Subsequent office visits | 1.50 |
| Neo-salvarsan, each injection, plus office visit .. | 2.00 |
| Anti-rabies, each injection (plus cost of medicine, unless furnished by State) | 2.00 |
| Spinal puncture, including manometric reading .. | 10.00 |
| Physio-therapy | 3.00 |
| Tetanus Antitoxin—cost of drug only | |
| Urologic consultation | 10.00 |
| Each additional visit | 3.00 |
| Testimony before Industrial Relations Board .. | 10.00 |
| Testimony before Industrial Relations Board by a qualified disinterested expert | 25.00 |
| Examination and written report on injured where examination made by other than attending surgeon | 5.00 |
| Calls to out of town cases for consultation, examination or treatment, regular charges, plus fifty cents per mile, one way. | |
| Administration of salvarsan or neo-salvarsan should be authorized by employer, insurance carrier or the Industrial Relations Board. | |

MEDICAL

| | |
|--------------------------------------------------|---------|
| Consultation with report | \$10.00 |
| Additional visits | 3.00 |
| Neurologic examination, complete, with report .. | 25.00 |
| Additional visits | 3.00 |
| Urologic consultation | 10.00 |
| Additional visits | 3.00 |
| Electrocardiogram | 10.00 |
| Basal metabolism | 10.00 |
| Pneumothorax, first | 10.00 |
| Each additional | 5.00 |
| Spinal puncture, including manometric reading .. | 10.00 |
| Aspiration of chest | 10.00 |
| Each additional | 5.00 |

| | |
|----------------------------------------------------------|-------|
| Aspiration of abdomen | 10.00 |
| Each additional | 5.00 |
| Intraspinal treatments, plus cost of serum or drug | 10.00 |
| Each additional, plus cost of serum or drug | 5.00 |

DISLOCATIONS

| | |
|---------------------------------------------------------------|------------------------------------------|
| Shoulder | (after care extra) .. \$10.00 to \$15.00 |
| Elbow | 15.00 |
| Wrist | 10.00 to 15.00 |
| Hip | 25.00 to 50.00 |
| Knee | 25.00 |
| Ankle | 15.00 |
| Clavicle | 15.00 |
| Finger or Toe | 5.00 |
| Jaw | 10.00 to 15.00 |
| Ribs | 10.00 |
| Spine and Pelvis | |
| by Traction | 50.00 |
| Carpal Bones | 5.00 to 10.00 |
| Open reduction of the above: reasonable fee, under agreement. | |

FRACTURES

| | |
|------------------------------------------------------------|-------------------------------|
| Upper Arm | (after care extra) .. \$25.00 |
| Forearm, Colles' | 25.00 |
| Forearm, | |
| one bone | 25.00 |
| both bones | 35.00 |
| Femur | 50.00 |
| Tibia | 35.00 |
| Fibula | 25.00 |
| Lower leg, | |
| both bones | 50.00 |
| Jaw | 25.00 |
| Ribs | 5.00 |
| Patella | 50.00 |
| Pelvis | \$50.00 to 75.00 |
| Metatarsal or Metacarpal .. | 10.00 |
| Finger | 5.00 to 10.00 |
| Toe | 5.00 to 10.00 |
| Skull, simple, | |
| non-operative | 25.00 |
| Coccyx | 5.00 to 10.00 |
| Sacrum | 15.00 |
| Sternum | 10.00 |
| Spine | 75.00 |
| Lachrymal bone | 5.00 |
| Malar | 25.00 |
| Scapula | 10.00 to 25.00 |
| Clavicle | 10.00 to 25.00 |
| Nasal bones | 10.00 |
| Carpal | 15.00 to 25.00 |
| Tarsal | 25.00 to 35.00 |
| Potts fracture | 35.00 to 50.00 |
| Compound fractures; reasonable increase, under agreement. | |
| Open reduction on the above; reasonable fee, on agreement. | |

OPERATIONS, USUAL TYPE

| | |
|---------------------------------------------------------------------|------------------|
| Exploratory laparotomy, with after care | \$100.00 |
| Herniorrhaphy, single, with after care | 75.00 |
| Herniorrhaphy, double, with after care | 100.00 |
| Hernia, strangulated with resection of bowel, with after care | 150.00 |
| Hernia, recurrent, single, with after care | 100.00 |
| Hernia, recurrent, bilateral, with after care .. | 125.00 |
| Hernia, ventral or post-operative, with after care | 100.00 |
| Hernia, diaphragmatic, with after care | 150.00 |
| Tendon sutures, without after care | \$10.00 to 25.00 |
| Rupture of kidney with removal, with after care | 150.00 |
| Rupture of kidney with drainage only, with after care | 100.00 |
| Orchidectomy, without after care | 50.00 |
| Epididymectomy, with after care | 50.00 |
| Ruptured urethra, without after care | 50.00 |
| Ruptured liver, with after care | 150.00 |

| | |
|--------------------------------------------------------------------------|--------|
| Ruptured spleen, with after care | 150.00 |
| Ruptured viscus, with after care | 150.00 |
| Semi-lunar cartilage, knee, without after care | 50.00 |
| Bonegraft, with after care \$100.00 to | 150.00 |
| Arthrodesis, with after care | 100.00 |
| Laminectomy, with after care | 150.00 |
| Excision bursa, elbow, without after care | 25.00 |
| Excision bursa, prepatellar, without after care | 25.00 |
| Nerve suturing, primary, single, without after care | 25.00 |
| Each additional, without after care | 10.00 |
| Nerve suturing, secondary, reasonable fee by agreement. | |
| Skull, requiring decompression, with after care | 125.00 |
| Skull, compound, including craniotomy, with after care | 150.00 |
| Operations for delayed union of fractures; reasonable fee, by agreement. | |
| Open reduction of fractures: reasonable fee, by agreement. | |

AMPUTATIONS

| | |
|-----------------------------------------------------|--------|
| Fingers or Toes, without after care . \$10.00 to \$ | 15.00 |
| Arm or Forearm, without after care | 50.00 |
| Shoulder, without after care | 75.00 |
| Leg, without after care | 50.00 |
| Thigh, without after care | 75.00 |
| Hip, without after care | 100.00 |

MINOR SURGICAL PROCEDURES

| | |
|--------------------------------------------------------------------------------------------------------------|---------|
| Anesthetics, minor | \$ 5.00 |
| Anesthetics, major | 10.00 |
| (Where Anesthetist furnishes gas for operation at home or surgeon's office, cost of gas to be added to fee.) | |
| Assistant's Fee, minor | 5.00 |
| Assistant's Fee, major | 10.00 |
| Cystoscopy, simple | 10.00 |
| Cystoscopy, with catheterization of ureters for x-ray | 25.00 |
| Removal of nail, finger or toe | 3.00 |
| Abscess, incision and drainage, without after care \$3.00 to | 5.00 |
| Foreign bodies, removed from wounds, without after care \$5.00 to | 10.00 |
| Burns, minor, \$3.00 and regular office visits. | |
| Burns, severe, \$5.00 to \$10.00 and regular office, hospital or home visits. | |
| Transfusion, direct or indirect method | 25.00 |
| Skin grafts, for burns or other conditions, reasonable fees by agreement. | |

EYE, EAR, NOSE AND THROAT CONDITIONS

| | |
|----------------------------------------------------------------------------------------------------------|--------|
| Ordinary removal of foreign body: | |
| (a) Attached to cornea or conjunctiva, but not embedded \$ | 3.00 |
| (b) Simple embedded | 5.00 |
| Localization of foreign body inside the eye ball, when necessary, x-ray | 25.00 |
| Extraction of foreign body from inside the eye ball (anterior chamber) with or without magnet | 50.00 |
| Extraction of foreign body from inside the eye ball (posterior chamber) with or without magnet | 75.00 |
| Enucleation of eye ball, which must include implantation, including after care | 75.00 |
| Iridectomy, including after care | 75.00 |
| Complete ophthalmologic examination and report | 10.00 |
| Refraction, when authorized by the Commission | 5.00 |
| Office visits | 2.00 |
| Home visits | 3.00 |
| Hospital visits | 3.00 |
| Fractured nose, including after care | 50.00 |
| Deviated septum, including after care (submucous resection) | 75.00 |
| Ruptured ear drum, first visit | 3.00 |
| Additional visits | 2.00 |
| Mastoidectomy—one side, including after care | 125.00 |

| | |
|---------------------------------------------------------------|--------|
| Mastoidectomy—bilateral, including after care | 150.00 |
| Laceration conjunctiva—sutures (after care extra) | 10.00 |
| Laceration of lids, sutures (after care extra) | 10.00 |
| Ectropion—by agreement. | |
| Secondary repair of orbit—reasonable fee by agreement. | |
| Traumatic cataract, single, including after care | 100.00 |
| Traumatic cataract, bilateral, including after care | 200.00 |
| Complete examination ears for hearing | 10.00 |
| Bronchoscopy—removal foreign body | 100.00 |
| Tracheotomy, after care extra | 50.00 |

X-RAY BY INDUSTRIAL SURGEON

| | |
|--------------------------------------------------------------------------------|---------|
| Ankle | \$ 5.00 |
| Ankle and foot | 5.00 |
| Arm, lower and $\frac{2}{3}$ | 6.00 |
| Arm and shoulder | 10.00 |
| Back (see spine and pelvis) | |
| Bladder (see urinary tract) | 10.00 |
| Chest (heart, lungs and great vessels): | |
| (a) Single plate or stereoscopic | 10.00 |
| (b) Fluoroscopic study, no additional charge if roentgenograms have been made. | |
| Fluoroscopic study alone | 3.00 |
| Clavicle | 5.00 |
| Clavicle (stereoscopic—2 views) | 10.00 |
| Colon (see gastro-intestinal) | 10.00 |
| Elbow | 6.00 |
| Ear (see mastoids) | |
| Eye (to determine presence of foreign body) | 6.00 |
| Localization, \$10.00 additional. | |
| Facial bones | 10.00 |
| Femur (lower $\frac{2}{3}$) | 6.00 |
| Femurs, both | 10.00 |
| Finger (two views on one plate) | 5.00 |
| Foot | 5.00 |
| Forearm | 6.00 |
| Forearm, part including wrist joint | 6.00 |
| Forearm, part including elbow joint | 6.00 |
| Feet (both on one plate) | 6.00 |
| Gallbladder | 6.00 |
| Gastro-intestinal tract, with barium | 17.50 |
| Esophagus, alone | 7.50 |
| Stomach, alone | 10.00 |
| Colon, alone | 10.00 |
| Hands (one or both) | 5.00 |
| Head | 10.00 |
| Hip Joint | 10.00 |
| Humerus below shoulder | 6.00 |
| Jaw (upper) | 10.00 |
| Jaw, lower (one side) | 6.00 |
| Jaw, lower (both sides) | 10.00 |
| Kidney (see urinary tract) | |
| Knee | 6.00 |
| Leg | 6.00 |
| Legs (both) | 10.00 |
| Mastoids | 10.00 |
| Nasal Bones | 6.00 |
| Neck (see spine) | |
| Pelvis | 10.00 |
| Pyelogram (see urinary tract) | |
| Ribs | 10.00 |
| Sacro-iliac joints | 10.00 |
| Shoulder | 6.00 |
| Sinuses | 6.00 |
| Spine (one section) | 6.00 |
| Two sections | 12.00 |
| Entire spine | 15.00 |
| Teeth (single film) | 3.00 |
| Not over six | 6.00 |
| Toes (single plate) | 3.00 |
| Urinary Tract: | |
| Both kidneys, ureters and bladder | 10.00 |
| * Bladder | 6.00 |
| Including pyelogram-cystogram | 15.00 |

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| Intravenous pyelogram | 15.00 |
| Wrist | 5.00 |
| Both wrists | 10.00 |
| Therapy treatment: by arrangement and agreement. | |
| All x-ray charges are to be based on examinations for diagnosis, irrespective of the number of films required. | |
| Follow up x-ray examinations to be made for 50 per cent less than the original cost. | |
| Charges not enumerated above are to be handled by arrangement and agreement. | |

X-RAY EXAMINATIONS MADE BY QUALIFIED ROENTGENOLOGIC SPECIALIST

| | |
|-------------------------------------------------------------------------------|------------------|
| Ankle | \$ 7.50 |
| Ankle and foot | 7.50 |
| Arm, lower $\frac{2}{3}$ | 7.50 |
| Arm and Shoulder | 10.00 |
| Back (see spine and pelvis) | |
| Bladder (see urinary tract) | 10.00 |
| Chest (heart, lungs and great vessels): | |
| (a) Single plate or stereoscopic | 10.00 |
| (b) Fluoroscopic study—no additional charge if roentgenograms have been made. | |
| Fluoroscopic study alone | 5.00 |
| Clavicle (stereoscopic—2 views) | 10.00 |
| Colon (see gastro-intestinal) | 20.00 |
| Elbow | 7.50 |
| Ear (see mastoids) | |
| Eye (to determine presence of foreign body) | 10.00 |
| Localization, \$25.00. | |
| Facial bones | \$10.00 to 15.00 |
| Femur (lower $\frac{2}{3}$) | 10.00 to 12.50 |
| Femurs, both | 15.00 |
| Finger, two views on one plate | 5.00 |
| Foot | 7.50 |
| Forearm | 7.50 |
| Forearm, part including wrist joint | 7.50 |
| Forearm, part including elbow joint | 7.50 |
| Feet, One foot | 7.50 |
| Two feet | 12.50 |
| Gallbladder | \$10.00 to 20.00 |
| Gastro-intestinal tract with barium | 25.00 |
| Esophagus, alone | 10.00 |
| Stomach, alone | 15.00 |
| Colon, alone | 20.00 |
| Hands (one) | 7.50 |
| Both | 10.00 |
| Head | \$15.00 to 20.00 |
| Hip Joint | 12.50 |
| Humerus, below shoulder | 7.50 |
| Jaw (upper) | 10.00 |
| Jaw (lower), one side | 10.00 |
| Jaw (lower), both sides | 10.00 |
| Kidney (see urinary tract) | 10.00 |
| Knee | 7.50 |
| Leg | 7.50 |
| Legs (both) | 12.50 |
| Mastoids | 15.00 |
| Nasal bones | 10.00 |
| Neck (see spine) | |
| Pelvis | 12.50 |
| Pyelogram (see urinary tract) | 15.00 |
| Ribs | 12.50 |
| Sacro-iliac joints | 10.00 |
| Shoulder | 10.00 |
| Sinuses | 10.00 |
| Spine, one section | 15.00 |
| Two sections | 15.00 |
| Entire spine | 25.00 |
| Teeth (single plate) | 3.00 |
| Not over six | 6.00 |
| Toes (single plate) | 5.00 |
| Urinary Tract: | |
| Both kidneys, ureters and bladder | 10.00 |
| Bladder | 10.00 |
| Including pyelogram-cystogram | 15.00 |
| Intravenous pyelogram | 20.00 |

| | |
|----------------------------------------------------------------------------------------------------------------|-------|
| Wrist | 7.50 |
| Both wrists | 10.00 |
| Therapy treatment: by arrangement and agreement. | |
| All x-ray charges are to be based on examinations for diagnosis, irrespective of the number of films required. | |
| Follow up x-ray examinations to be made for 50 per cent less than the original cost. | |
| Charges not enumerated above are to be handled by arrangement and agreement. | |

FEES FOR PATHOLOGY AND CLINICAL

PATHOLOGY

Blood

| | |
|-------------------------------------------|---------|
| Wassermann | \$ 5.00 |
| Wassermann, any modification | 5.00 |
| Precipitation, Kahn or others | 5.00 |
| Any two of above | 7.50 |
| Complement fixation G. C. | 5.00 |
| Full blood count | 7.50 |
| White count and differential | 3.00 |
| Coagulation time | 2.00 |
| Sedimentation test | 3.00 |
| Fragility test | 5.00 |
| Platelet count | 2.00 |
| Full test—hemorrhagic diathesia | 10.00 |
| Icteric index | 2.00 |
| Special culture, blood | 10.00 |
| Widal | 3.00 |
| Simple culture | 5.00 |
| Bilirubin Van den Bergh | 3.00 |
| Malaria, plus red count | 2.00 |
| Typing and grouping | 7.00 |
| Cross agglutination tests | 5.00 |
| Additional per person | 2.00 |
| Urea nitrogen | 3.00 |
| Non-protein nitrogen | 2.00 |
| Uric acid | 3.00 |
| Cholesterolin | 5.00 |
| Creatinine | 3.00 |
| Sugar | 3.00 |
| CO ² | 5.00 |
| Any four tests of the above | 10.00 |
| Calcium | 7.00 |
| Magnesium | 5.00 |
| Phosphorus | 7.00 |
| Chlorides | 3.00 |
| Any three of the above | 12.00 |
| Lactic acid | 3.00 |
| Hydrogen ion concentration | 3.00 |
| Albumin-globulin ratio | 10.00 |
| Friedman test | 10.00 |

Urine

| | |
|------------------------------------------------------------------|-------|
| Routine, chemical qual, no micro. | 2.00 |
| Routine, chemical qual, with micro. | 3.00 |
| Routine, chemical and micro, and quant. sugar | 5.00 |
| Arsenic or lead (heavy metals) | 10.00 |
| Quantitative urea | 2.00 |
| Quantitative creatinine | 2.00 |
| Quantitative uric acid | 2.00 |
| Quantitative ammonia | 2.00 |
| Quantitative chlorides | 2.00 |
| Quantitative total nitrogen | 2.00 |
| Above five tests | 10.00 |
| Phthalein | 2.00 |
| Urobilin quantitative | 3.00 |
| Tyrosin | 3.00 |
| Mosenthal or other conc. test | 5.00 |
| Simple culture | 5.00 |
| Special culture | 5.00 |
| Ureter specimens, urea, micro and cultures, both sides | 15.00 |
| Tuberculosis—extra | 3.00 |
| Animal inoculation | 10.00 |

SPINAL FLUID

| | |
|-------------------------------|------|
| Wassermann | 5.00 |
| Precipitation | 3.00 |
| Colloidal gold test | 3.00 |

THE PRESIDENT'S PAGE

WILL THE HOSPITALS RUN THE PHYSICIANS, OR WILL THE PHYSICIANS RUN THE HOSPITALS?

At a recent meeting of the Georgia Hospital Association that organization adopted the following recommendations:

1. Establishment of county hospitals at strategic points in the State.
2. Surveys to determine where the hospitals are needed.
3. Instruction of public officials and citizens as to their responsibility for the operation of such hospitals.
4. Revision of the State constitution so that counties and other political subdivisions can legally spend money for the support of hospitals.
5. Provisions whereby governments may take over existing private hospitals, relieving them of their responsibility, where it is planned to build still other hospitals.

While these recommendations have merit, it would appear the Georgia Hospital Association fails to recognize the fact that most of our hospitals came into existence because of the efforts of physicians whose eyes saw the need of, and whose ears heard the appeals for, such institutions. They, like the merchant or the grain dealer or the plow manufacturer, recognized the need for hospitals to give their clientele better service.

So far the physicians of this country have formulated the policies governing the operation of hospitals. But now comes another day: more laymen are interested in hospitals; some are superintendents of such institutions and many are on their boards of control. With this change of hospital administration business methods have been substituted for scientific progress; plans are made and put into practice to bring revenue into hospitals' coffers through the practice of medicine. All of this creates discord among physicians, and contributes to the high cost of hospital care.

It has been said the hospitals need this additional revenue, even though many institutions operate under the auspices of churches whose congregations contribute freely to medical charity. Of course, some hospitals must pay six per cent loans, but a great deal

of the money goes to the payment of large salaries to lay superintendents, some of whom tell physicians how to run things. Here is where encroachments are made upon the practice of medicine. Anesthesia, clinical pathology and radiology are remunerative branches of medicine for hospitals; a few of the larger institutions seize the opportunity to employ lay anesthetists to administer anesthetics, but charge physicians' fees for such service. The departments of clinical pathology and radiology are more satisfactorily controlled, but none too well. The hospitals of one Georgia city collect more than one hundred thousand dollars each year for the anesthetics administered to patients, most of which are given by women whose salaries are less than one hundred fifty dollars a month. The same hospitals use a large percentage of the income from the departments of clinical pathology and radiology to supplement the needs of their cash drawers. Such imposition upon physicians is not right, does not promote the scientific progress of medicine, and will not lessen the cost of hospital care. The American Medical Association has condemned such practice; we must do so.

Most of our Georgia hospitals are located in twenty counties. THE MEDICAL ASSOCIATION OF GEORGIA has long been cognizant of the need for more small, community hospitals. At the last session of the Legislature the Association sponsored a constitutional amendment which will permit counties to levy taxes for the medical and hospital care of their indigent sick. The amendment will be voted upon in November. Already the Federal and State governments have authority to designate hospitals to aid in their programs. Indeed, some of the recommendations of the Hospital Association are in effect, a few are in the making, and others probably do not come within its jurisdiction, but are problems for the physicians of our State. Some of these physicians will build hospitals, others will cooperate with their medical societies in community hospital projects, and all will control in a measure the hospitals they support.

GRADY N. COKER, M.D.

THE JOURNAL

OF THE

MEDICAL ASSOCIATION OF GEORGIA

Devoted to the Welfare of the Medical Association of Georgia

478 Peachtree Street, N. E., Atlanta, Ga.

SEPTEMBER, 1938

WHAT DOES OUR GOVERNMENT PROPOSE TO DO ABOUT THE PRACTICE OF MEDICINE?

Following the passage of the Social Security Act in 1935, the President appointed the Interdepartmental Committee, which was designed to coordinate Health and Welfare Activities, through a Technical Committee.

Last May it was announced that a National Health Conference would be convened in Washington July 18-20 of this year. In order to ascertain the views of the Administration, the Secretary of the American Medical Association, with the approval of the Board of Trustees, invited Miss Josephine Roche, Chairman of the Interdepartmental Committee and Assistant Secretary of the Treasury, to present a statement of her committee's activities to the House of Delegates at the San Francisco session. This she was prevented from doing by pressing personal affairs. However, her prepared statement was read by Dr. Warren F. Draper, Assistant Surgeon General of the United States Public Health Service, a delegate from that service.

It is very important for all members of organized medicine to read this statement, which appeared in the July 2nd issue of the Journal of the American Medical Association. However, it is neither lucid nor logical. This Interdepartmental Committee is composed of four assistant secretaries of governmental departments and the Chairman of the Social Security Board, all laymen, who are to pass upon the affairs of physicians. The committee's conclusions were based upon data compiled by the Technical Committee from the report of a survey made by the United States Public Health Service of 800,000 families, comprising 2,800,000 individuals. The statement contains little that could not have been obtained without the expenditure of four million dollars of the people's money. And Miss Roche naively says: "The overwhelming central fact established by the na-

tional health survey is this: *that with poverty goes not only a higher rate of sickness, but a deficiency of medical care.*" This has been axiomatic since the time of Hippocrates, and will probably not be greatly changed by any Utopian plan of visionaries and sentimentalists. It can be corrected only by banishing poverty, and that seems unlikely, for Christ said that the poor we shall always have with us.

The committee did the medical profession the belated honor of inviting the officers of the American Medical Association to the conference. If I am correctly informed, this is the first instance during the present Administration that the Association has been permitted to even sit in on any conference or deliberation of this or any congressional committee. It would seem that this was only a salve to the profession, however, for it appears that everything was cut and dried before the conference was held, and that this afforded an opportunity for our enemies to publicly assail us, and otherwise make a farce of the convention.

Those who attended the conference, approximately 200, were largely representatives of organizations of labor, mutual aid, welfare, farm bureaus, federations, editors of the radical press, leaders in hospital insurance, government employees, and others. Organized medicine had *ten* representatives, the "430" had four, and some other organizations had a few.

The discussion was characterized by bitter attacks upon organized medicine, but limited time prevented anything like a free and dispassionate discussion of the problems under consideration.

Miss Roche made the introductory statement in which she outlined the work done by the Technical Committee, and stated that the conference was called for the purpose of informally discussing the problems under consideration. With that in view, the conference ended without taking action on any part of the program, which contains five recommendations, as follows:

1. The expansion of public health, maternal and child health service, at an *annual increase in cost of \$200,000,000*, the expense to be borne equally by state and Federal governments. Included in this recommendation

is an elaborate setup for developing numerous specialists.

2 and 3. These recommendations provide for expansion of medical service and facilities, to especially include diagnostic and therapeutic service, and to improve hospital facilities so that every county will have hospital accommodations. Care of the indigent is included in this part of the report.

4. This recommendation is to the effect that additional taxes should be imposed in order that *every individual will be provided with medical care, which will of course be compulsory.*

5. This refers to the old problem of sickness insurance, to be supported by additional taxation and wage deduction.

The modest (?) beginning of this program *will cost the taxpayers \$850,000,000 annually to carry out only the first three recommendations.* This does not provide for the cost of the major problems of medical care and sickness insurance, which will be far more staggering than anything we have heretofore experienced or anticipated.

Not directly connected with the subject under consideration, but important to keep in mind is the fact that hostility to and persecution of the medical profession appear to be sponsored by the President of the United States, through his appointees, thereby placing us in the unprecedented danger of becoming completely regimented. The Administration would "hamstring" us by some act of Congress, such as the unfair and odious Senate Resolution 188, introduced by Senator J. Hamilton Lewis. This bill would require physicians to have a Federal license in addition to that granted by the state. The purpose of this measure is to "goose-step" and completely control the medical profession. It also provides that the failure of a physician to respond to an indigent person's call makes him liable to a fine of \$1,000 and imprisonment for three months. This does not sound like America.

It is futile to make criticism without offering a remedy. I offer the only remedy that a democracy can apply, viz., *petition our representatives in Congress, and enlighten and educate the public.*

In view of recent developments, let us not sit supinely by and see our liberties swept

away, but warn everyone against the dangers of a dictatorship, for under a dictatorship of the proletariat, the financially responsible and the intellectually free are the first to be "purged."

WILLIAM H. MYERS, M.D.
President-Elect.

August 20, 1938.

SOLUTION OF ZINC-INSULIN CRYSTALS—A NEW THERAPEUTIC AGENT

Comparison with Unmodified and Protamine Zinc Insulin

The enthusiasm kindled by Banting and Best with their first publication on insulin effect during 1922, continues to spread; it attacks all phases of metabolic research. Fresh fuel was added with the discovery of protamine insulin by Hagedorn. Now, new fuel is at hand; it is "Insulin, specially prepared as Solution of Zinc-Insulin Crystals." This last contribution comes from Dr. Melville Sahyun, a chemist.

Guarded by the insulin patents of the University of Toronto, the early clinical experimental investigations of the original insulin were conducted in this country with the pharmaceutical cooperation and at the expense chiefly of Eli Lilly and Co. When sufficient knowledge had been secured through experiment, the regular or unmodified insulin was released for commercial use; all pharmaceutical houses who could satisfy the requirements were permitted to share in the rewards of production for sale.

Again during 1936 with the experimental protamine insulin products, and the final Protamine Zinc Insulin, the Eli Lilly and Co. carried the heaviest burden; the burden was shared by E. R. Squibb and Sons, and to a less degree by others. At the end of the experimental period, the fruits of the labor were shared. Since April 1937, the use of Protamine Zinc Insulin has increased until its use now accounts for 30 to 40 per cent of all insulin sales.

Now, the Solution of Zinc-Insulin Crystals, supplied for experimental purposes during more than two years by Frederick Stearns and Co., is commercially obtainable. Under

the Toronto agreement, the fruits of the Frederick Stearns and Co. labors are being shared with reputable pharmaceutical manufacturers.

Anent the foregoing, Joslin has taught the doctors and the diabetic patients of this country to be appreciative and helpful toward those agencies which have supplied help to the diabetic. The research departments of pharmaceutical houses rightfully hope, that their expenditures which enable clinical research during a trial period of a new therapeutic agent may have the results of an appreciative response.

Of significance to the successful use of an insulin product, is the following: Regular or unmodified insulin became available for general use Jan. 1923 after clinical trial coincident with the appearance of an issue of the Journal of Metabolic Research; the entire issue was devoted to the experimental clinical results and the methods used with insulin. During Feb. 1937, after several years of clinical investigation, Protamine Zinc Insulin appeared upon the market; its release was preceded by the publication in several countries of enthusiastic reports of the results of rather impatient clinical investigation. The package literature accompanying the vials of Protamine Zinc Insulin carried a bibliography of the published articles, and we thought that we knew the behavior of the modified, slow acting protamine zinc insulin. Now, the Solution of Zinc-Insulin Crystals appears for general use, but without reference to experimental clinical or animal investigations and without a bibliography of the clinical literature; this omission is *not* the fault of the producers. The controlled package literature gives one the impression that this new product behaves just like regular unmodified insulin, except that it can be used to greater advantage in patients who are allergic to regular insulin.

Again, anent the successful use of an insulin product, we predicted during 1937, in conversation and in writing with a number of clinical investigators of protamine zinc insulin that in the absence of certain published precautions, the use of protamine zinc insulin in inexperienced hands, would lead to unfavorable results, discredit to the product and possibly accidental deaths. Several medical

articles and a recent editorial in the Journal of the American Medical Association¹ are a substantiation of that prediction.

Protamine zinc insulin acts slowly and for a long time (24 hours to 72 hours, in contrast to the 6 to 8 hours activity of regular insulin) and often produces marked lowering of the blood sugar level unaccompanied by the recognizable manifestations of hypoglycemia or insulin shock. Somogyi^{2,3,4} and his associates have demonstrated that as a result of hypoglycemia from any cause, a biologic corrective process in the animal and human organism, calls forth a compensating mechanism which leads eventually to hyperglycemia or an excessive blood sugar level. This "heteroglycemic" corrective mechanism, when accompanied by certain other biologic responses has marked significance for the insulin treated patient. With the diabetic patient, its extreme importance lies in the fact, that unless symptomless unsuspected hypoglycemia is discovered by examination of the blood sugar level, (the taking of food, which may be followed under such circumstances by a rapid change to hyperglycemia with sugar in the urine) the resulting glycosuria will give the impression that the insulin dose is too small. Successive increases of protamine zinc insulin doses will only render the results worse because of the development of still greater hypoglycemia, until such a time as severe insulin shock or a more serious disaster is experienced. On the other hand, reduction of the insulin dose will, in many instances, prevent glycosuria by abolishing the preceding hypoglycemia. Excessive doses of protamine zinc insulin account for many of the "failures" with this product. Rendering some patients sugar-free by reducing the protamine dose constitutes the "protamine paradox." Wilder's recently described method⁵ of maintaining protamine insulin control carefully avoids hypoglycemic eventualities.

What has just been stated of protamine zinc insulin therapy applies equally to therapy by any type of insulin; the only difference is that those insulin preparations which produce rapid blood sugar lowering effect, usually give warning of hypoglycemia or "relative hypoglycemia" (by relative hypoglycemia is meant a blood sugar level which is an unaccustomed low level for that individual)

with recognizable symptoms of insulin shock.

Solution of Zinc-Insulin Crystals (formerly called Crystalline insulin) is an important and welcome addition to the "diabetic armamentarium." It consists of a water-clear solution with a pH of 2.7, of pure zinc insulin crystals with a strength of 40 units to each cubic centimeter. The ash of Zinc Insulin Crystals amounts to 0.9 per cent and the zinc content⁶ is only 0.03 to 0.04 milligram per 100 units while protamine zinc insulin contains 0.2 milligram per 100 units of insulin. It is at least as heat stable⁷ as regular unmodified insulin and much more heat stable than protamine zinc insulin. This stability offers a definite advantage in traveling but the solution should be kept cool when this is possible. Upon injection into diabetic man, its blood sugar lowering effect starts as promptly and proceeds to about the same degree as regular unmodified insulin; on the other hand its duration of blood sugar effect is two or more times as great as that of regular or unmodified insulin.⁸ Solution of Zinc-Insulin Crystals acts for 12 to 14 hours. Consequently, it may be employed to advantage in those "juvenile types" and in those elderly patients where protamine zinc insulin appears to be too slow or too prolonged in its action; or, where it is desirable to reduce the number of injections of regular insulin. It has been employed successfully also as a simultaneous injection for those patients who require additional help for successful protamine zinc insulin control. When Solution of Zinc-Insulin Crystals is used in this conjunction with simultaneous injections, it should be remembered that the duration of activity of Zinc-Insulin Crystals provides a blood sugar lowering influence at the same time that protamine zinc insulin is reaching its maximum influence, namely, six to ten hours after injection. Thus, it may be appreciated that Solution of Zinc-Crystals may be employed for any eventuality including diabetic coma, in which regular unmodified insulin would be employed, and in addition, in some cases where a single dose of protamine zinc insulin does not exert satisfactory control. We look forward with interest to an explanation for the prolonged activity of Zinc-Insulin Crystals.

We, who have shared the benefits of Zinc-Insulin Crystals since 1936, express our congratulations, our indebtedness and thanks to Dr. Melville Sahyun.

HAROLD BOWCOCK, M.D.

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NEWER CONCEPTS OF CANCER

There is more activity in cancer research laboratories all over the world today than at any time in history. While some improvements in present methods of treatment are being made, most of the efforts of the research men are directed toward the discovery of the fundamental causes of this dreaded disease. This problem is not yet solved but at least one new approach is being made to it.

Within the past generation much has been learned about the activities of the endocrine glands and the substances which they produce. These substances are called hormones and we know that they are very important in regulating and controlling many vital bodily functions. Many well known diseases are caused by under- or over-production of these hormones. The normal growth and development of many organs and tissues is entirely dependent upon the production of an unbelievably small amount of a certain hormone in a gland in a distant part of the body.

It has been known for many years that cancerous tumors are composed of great masses of body cells that grow much more rapidly than normal cells and that, in their rapid and uncontrolled growth, they destroy or overgrow all the normal structures that are in their way. Now, since the growth of almost all cells is controlled by one or more of these hormones, if something goes wrong and too much or too little of them is produced or if an impure hormone is manufactured by the endocrine gland it is at least possible that a wild, ungoverned growth of the tissue under

its control might result. This has not been proved in humans but it appears to be true in mice.

For instance, in some strains of mice it has been possible to produce cancer of the breast by giving them large doses of sex hormone. It has even been possible to produce cancer of the breast in male mice by this means! The doses of hormone necessary to accomplish this in mice is very large and, so far as we know at the present time, human beings never receive such doses either naturally or artificially. However, these experiments do indicate that these various hormones probably play some part in the development of cancer and it is to be hoped that they may lead to a better understanding and control of this disease.

THOMAS HARROLD, M.D.

CHANGES, GROWTH AND MEMBERS OF THE FULTON COUNTY MEDICAL SOCIETY*

W. L. CHAMPION, M.D.
Atlanta

I have watched the growth of this Society for forty-five years. When I joined in 1893 its membership was about sixty and it was known as the Atlanta Society of Medicine.

In 1905 the Medical Association of Georgia was amalgamated with the American Medical Association, after one of the warmest debates and hardest fought contests that had ever occurred in the Medical Association of Georgia.

County Societies were then formed and the Atlanta Society of Medicine became the Fulton County Medical Society.

The Society, now with a membership of five hundred, is the largest or next to the largest in the Southeast. Its personnel, composed of outstanding men in the profession, portends for the future a medical center for this section that some of you present have not sensed.

You have watched the revolutionary changes and advances in medicine and surgery put into service, you have contributed outstanding papers, case reports and research

which have helped to elevate the Fulton County Medical Society to the place of prominence it now occupies. Atlanta having a medical profession composed like you, there is no reason for any one to seek advice or service elsewhere.

This membership, through its committees and as a body, has been making a good fight for organized medicine, and has registered its disapproval of the disgraceful attempt to legislate the profession away from its time honored mooring.

In my opinion, as serious as the outlook now appears, we will not be regimented into service by the government.

If I am in error, and such a change does come to pass, our democratic form of government will be a thing of the past and we will be living in another Russia. Every department of our government will suffer, and the rights of states and individuals will be transferred to Washington. God forbid that such will happen.

There stand here this evening thirty-one men members of an honorable profession who have been members of this Society for twenty-five years or more. Your President requested me to present to each a certificate on account of this record and their faithful service to this Society and organized medicine.

You know the true office of a physician that is well expressed by Pike: "To sow, that others may reap; to work and plant for those who are to occupy the earth when we are dead; to project our influence far into the future, and live beyond our time; to rule as the Kings of Thought over men who are yet unborn; to bless with the glorious gifts of Truth and Light and Liberty those who will neither know the name of the giver, nor care in what grave his unregarded ashes repose, is the true office of a physician and the proudest destiny of a man."

RESEARCH WORK ON MALARIA

An appropriation of \$3,000 from the Abbott Laboratories, of North Chicago, Ill., for the continuation of research work on malaria at Emory University has been announced by officials of the Emory School of Medicine. The research, being conducted on canaries, is directed toward finding new drugs for the control and treatment of malaria. Dr. Elizabeth Gambrell, instructor in bacteriology, will supervise the experiments.

*Address before the Fulton County Medical Society, Atlanta, at its annual banquet on January 6, 1938.

GEORGIA DEPARTMENT OF PUBLIC HEALTH

T. F. ABERCROMBIE, M.D., *Director*

PNEUMONIA—A GROWING MENACE

We of the medical fraternity can scarcely avoid a deep feeling of self-reproach when we note the alarming position which pneumonia occupies as a cause of death among our people. Must we not admit that somewhere along the line we have failed to make the most of our knowledge and ability? Have we done our part to inform the public as to the cause, manner of spread and prevention of pneumonia? Have we given sufferers from this infection full benefit of available therapeutic measures? Obviously it has often been impossible, largely for economic reasons, to carry out idealistic methods and procedures. However, it is equally obvious that concerted effort on the part of everyone concerned is imperative if we are to change the deplorable picture which pneumonia presents to us now.

This disease has been the staunch ally of the grim reaper as far back as we have records of the history of man. Writings of Hippocrates indicate that he was well acquainted with the clinical picture of the disease. Savonarola in 1497 described what was evidently pneumonia and noted the contagious nature of the disease. Hirsch, in his *Geographical and Historical pathology* fills pages with data concerning epidemics of pneumonia. During the World War pneumonia was, from beginning to end, the most potent cause of death. The greater susceptibility of men from rural areas was clearly shown, especially in regard to Southern negroes, rural people having been unable, from lack of the more constant exposure to respiratory diseases usually experienced by urban people, to build up actively acquired immunity. Probably only the deplorable sanitary conditions existing in the armies of earlier wars allowed typhoid and dysenteries to take precedence over pneumonia as a cause of death.

The table below gives us a picture of position occupied by pneumonia as a cause of death in Georgia:

DEATHS FROM PNEUMONIA IN GEORGIA
Number of Deaths, Rates per 100,000 Population and
Rank as Cause of Death for Years 1920, 1925,
1930, 1935, and 1937

| Year | No. of Deaths | Rate Per 100,000 Pop. | Rank as Cause of Death |
|------|---------------|-----------------------|------------------------|
| 1920 | 2,766 | 95.5 | First |
| 1925 | 2,335 | 80.5 | Fourth |
| 1930 | 2,580 | 88.5 | Third |
| 1935 | 3,035 | 100.2 | Third |
| 1937 | 3,077 | 100.0 | Third |

It is not to our credit that pneumonia, an infectious, communicable and, to a considerable degree at least, a preventable disease should remain within the group of the five leading causes of death in Georgia, being exceeded only by heart disease and nephritis.

Since primary lobar pneumonia of pneumococcal origin accounts for most of our pneumonia deaths, except in unusual epidemic periods, it is logical that measures for reduction of pneumonia morbidity and death rates should be directed primarily toward this disease. Inasmuch as bronchopneumonias are usually secondary to whooping cough or the virus diseases, problems concerning them are largely the problems concerning those diseases to which they are secondary.

From the standpoint of the public health worker measures for reduction of pneumonia morbidity and death rates are based on two basic features: (1) the education of the people regarding the cause, manner of spread, and prevention of pneumonia, and (2) making available to all physicians facilities for quick sputum typing and distribution of specific anti-serum. It is not intended, by considering these two measures as basic, to ignore the great value of good nursing, oxygen, and other indicated measures.

A most urgent need is for the public to realize the dangers of overcrowding, of neglecting simpler respiratory infections, and above all, of postponing the consultation with the physician until it is too late for him to make an early diagnosis and to institute early treatment.

Despite educational measures, however, it is obvious that, at present at least, most can be done to reduce pneumonia deaths by approaching the problem from the therapeutic rather than from the preventive angle. Data on series after series of lobar pneumonia cases, comparing serum treated cases with untreated, consistently show a much lower case fatality rate for the treated cases of Types I and II and less favorable, but apparently beneficial, results for the cases of Types V, VII and VIII.

Inasmuch as approximately two-thirds of our pneumonias are of pneumococcal origin, and over half of these are of the types most amenable to serum therapy (Types I and II), can anyone doubt that, were a service providing prompt typing facilities and distribution of serum available to all, hundreds of deaths from pneumonia in our state could be prevented.

The history of serum therapy in pneumonia offers a classic example of the neglect of a valuable therapeutic measure, this neglect being most likely the result of earlier attempts at the use of serum without logical plan for interpretation of results which, while not spectacular, were definitely significant.

The value of serum therapy probably is not fully appreciated by some physicians. This may, to some extent, account for their not having become acquainted with the technic of its use, which is not nearly so complicated as some may think. This means that educational work needs to be directed, not only toward the public, but also, even if to much lesser extent, toward the profession. This will require active cooperation between medical teachers and practicing physicians. The public health workers should take the lead in education of the public.

The State Department of Health is gravely concerned on account of and, of course, greatly interested in the pneumonia situation. At present, the department has typing service available at its main laboratory in Atlanta and its branch laboratories in Albany and Waycross, while several city and private hospital laboratories have been approved for typing. Anti-pneumococcus serum, for types where its use has been shown to be of value, is available at cost. While this service is of great value we realize that many more typing stations are needed, and the serum should be available without cost to those unable to pay. A full program, including a large number of typing stations, free distribution of serum, adequate nursing service and distribution of oxygen would involve enough expense to require special legislation for appropriations. However, such a program would save many times its cost in value of lives saved. Consider the fact that we have approximately three thousand deaths a year from pneumonia in our state. About two-thirds of these deaths result from pneumococcus infections. About half of this two-thirds, or 1,000 deaths at least, are due to types of pneumonia which are amenable to serum treatment and in which serum treatment should reduce the mortality by one-half. This saving of five hundred lives annually is, economically alone, worth several million dollars. Its worth from the humanitarian standpoint is too great for estimation. Let us hope that professional and public interest may be aroused to an extent which will make an effective pneumonia control program possible.

JOHN M. WALTON, M.D.,
*Assistant Director,
 Division of Epidemiology,
 Georgia State Dept. of Health.*

PRENATAL AND BABY HEALTH CENTERS TO BE ESTABLISHED IN GEORGIA BY THE STATE HEALTH DEPARTMENT

The Georgia Department of Public Health, with the Children's Bureau of the United States Department of Labor cooperating, announces that certain social security funds have become available for the institution of plans to establish prenatal and well baby health centers. Such centers will not be run in connection with a medical school, teaching hospital, or other hospital, as part of the teaching service for students, interns, residents or nurses. The answer to this regulation was made that such institutions now exist, and that the new program is of an expanding nature to reach individuals not now being treated, particularly in rural communities.

An honorarium to compensate physicians will be paid, the amount to be determined in advance by the size of the clinic and in consultation with the local health commissioner, the local medical profession and the State Department of Health. A vague guess of this amount would be five dollars for two hours work. These payments shall be a flat amount per session and shall not be considered as a fee for medical services to a particular number of individuals.

Any pregnant woman, or any child under five years of age, may be referred to these clinics by a practicing physician, a public health nurse, or a medical health officer, provided the medical indigency is apparent to the commissioner of health or the authorities of the clinics.

At these clinics only such treatment as falls in the classification of a minor established routine, such as feeding, laxatives, cod liver oil, hematinics, dietary advice, home remedies, the treatment of prenatal syphilis and such procedures as may be necessary for the prevention and control of communicable diseases, shall be carried out. No other sick children will be accepted. Crippled children will be referred to the crippled children's service.

This program will be instituted and operated by general approval of the Medical Association of Georgia, through its authorized agents; general approval of the principles on the part of the county medical society in which the clinic or clinics are to be instituted and operated, or approval in writing of the majority of the physicians in the locality where there is not an active county medical society.

WM. WILLIS ANDERSON, M.D.,
*Chairman, Advisory Committee
 to the State Board of Health.*

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APRIL 1937 - APRIL 1938

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Burpee, Mrs. C. M., 1127 Monte Sano Ave., Augusta
Butler, Mrs. J. H., 1103 Milledge Rd., Augusta
Chaney, Mrs. Ralph H., Forest Hills, Augusta
Crichton, Mrs. Robt. B., 1538 Wrightsboro Rd., Augusta
Greenblatt, Mrs. Robert, 2409 Williams St., Augusta
Harper, Mrs. Harry T., Colonial Courts Apts., Augusta
Kelley, Mrs. G. Lombard, 1001 Russell St., Augusta
Lee, Mrs. F. Lansing, Augusta
Matthews, Mrs. W. E., 2804 Lombardy Court, Augusta
Mealing, Mrs. Henry G., Augusta
McGahee, Mrs. Robt. C., 2633 Raymond Ave., Augusta
Milligan, Mrs. King W., 942 Green St., Augusta
Mulherin, Mrs. P. A., Augusta
Philpot, Mrs. W. K., 2151 Kings Way, Augusta
Phinizy, Mrs. Thos., Augusta
Pund, Mrs. Edgar R., Augusta
Rhodes, Mrs. R. L., 2501 Bellview Ave., Augusta
Roule, Mrs. J. V., Jr., 931 Heard Ave., Augusta
Sanderson, Mrs. E. S., Augusta
Sherman, Mrs. Jno. H., Augusta
Stevens, Mrs. A. H., Augusta
Tessier, Mrs. Claude E., Augusta
Tessier, Mrs. L. P., 933 Hickman Rd., Augusta
Traylor, Mrs. G. A., 2311 Kings Way, Augusta
Todd, Mrs. L. N., Augusta
Thompson, Mrs. Sadie, Augusta
Torpin, Mrs. Richard, Augusta
Volpitto, Mrs. P. P., Augusta
Wade, Mrs. A. C., 1207 John's Rd., Augusta
Woodbury, Mrs. R. A., 1232 Belmont Dr., Augusta
Wright, Mrs. Peter, Augusta

NEWS ITEMS

THE MACON MEDICAL SOCIETY of Bibb County met at Ridley Hall, Macon, August 2. Dr. Charles C. Harrold made a report on patients being treated for cancers under the program of the State Board of Health.

DR. E. R. CORSON, Savannah, celebrated his eighty-third birthday on July 20. He is a roentgenologist of remarkable ability and a member of the Georgia Medical Society (Savannah), Medical Association of Georgia, American Association of Anatomists, American Roentgen Ray Society and the American Medical Association.

DR. L. C. FISCHER, Atlanta, spoke before a meeting of the Waycross Kiwanis Club on July 22. Mr. H. A. Stallings in the July 25 issue of the Waycross Journal-Herald enumerates the many advantages in Waycross for medical, surgical and hospital service. Some of the advantages mentioned are: Branch Laboratory of the State Board of Health, Ware County Hospital, Atlantic Coast Line Hospital, Cancer Clinic, Eye, Ear, Nose and Throat Clinic, Syphilis Clinic, Well-Baby Clinic; then boasts of having the Ware County Medical Society and states that it is one of the best organized in the State and that it could justly be used to the best advantage as a "model" by other societies; also the Ware County Health Department.

DR. HUGH WOOD announces the association of DR. E. B. AGNOR in the practice of internal medicine with offices in Suite 410 Medical Arts Building, Atlanta.

DR. JAMES I. WEINBERG announces the opening of offices in Suite 511 Doctors Building, 478 Peachtree Street, N. E., Atlanta, for the practice of medicine.

DR. FRANK K. BOLAND, Atlanta, has been elected president of the Atlanta Historical Society to fill the unexpired term of Mr. Jack J. Spalding, who resigned on account of ill health.

THE WARE COUNTY MEDICAL SOCIETY met at the Y. M. C. A. Building, Waycross, on August 3. Dr. W. M. Flanagan, Waycross, read a paper entitled *The Treatment of Typhoid Fever*.

DR. T. H. CHESNUTT, Moultrie, Colquitt county commissioner of health, announces that a widespread campaign against typhus fever will be promoted immediately by the county health department.

DR. J. F. MIXSON, JR., Valdosta, spoke before a meeting of the Valdosta Civic Club August 17 on *Health Conditions in Valdosta*.

THE TRI-COUNTY MEDICAL SOCIETY, composed of Calhoun, Early and Miller Counties, was host to members of the Randolph and Terrell Counties Medical Societies at a fish and chicken dinner served at Cordray's Mill, August 18. Titles of papers on the scientific program consisted of *Malaria, Prophylaxis and Treatment*, by Dr. G. O. Gunter, Blakely; discussion was led by Dr. G. M. Anderson, Morgan. *Sulfanilamide, Its Uses and Abuses*, Dr. W. H. Wall, Blakely; discussion led by Dr. J. C. Hattaway, Jr., Edison. *Heart Disease*, Dr. J. A. Redfearn, Albany.

A JOINT MEETING of the Southeastern Surgical Congress and the Fourth District Medical Society was held at the City and County Hospital, LaGrange, August 17. Titles of clinical cases and case records follow: *Appendicitis*, by Dr. J. C. Patterson, Cuthbert; discussion was led by Dr. V. H. Bennett, Gay. *Tumors of the Breast*, Dr. J. L. Campbell, Atlanta; discussion led by Dr. B. T. Wise, Americus. *Hernia*, Dr. Fred Waas, Jacksonville, Fla.; discussion led by Dr. Richard Binion, Milledgeville. *Pelvic Inflammatory Disease*, Dr. Kenneth S. Hunt, Griffin; discussion led by Dr. Gilbert Douglas, Birmingham, Ala. *Diseases of the Biliary System*, Dr. R. L. Sanders, Memphis, Tenn.; discussion led by Dr. J. R. Young, Anderson, S. C. Address, Dr. Grady N. Coker, Canton, president of the Association. *Fracture of the Neck of the Femur*, Dr. T. P. Goodwyn, Atlanta; discussion led by Dr. W. L. Cooke, Columbus. *Skin Graft*, Dr. W. G. Hamm, Atlanta; discussion led by Dr. Charles H. Richardson, Macon. *Acute Mastoid*, Dr. Murdock Equen, Atlanta; discussion led by Dr. Arthur G. Fort, Atlanta. *Ureteral Colic*, Dr. Wallace Bazemore, Macon; discussion led by Dr. Spencer A. Kirkland, Atlanta. Dr. and Mrs. Enoch Callaway, LaGrange, were hosts to the members and their wives at dinner in the Highland Country Club.

DR. CHARLES C. HARROLD, Macon, spoke before a meeting of the Macon Civitan Club on August 5.

THE TENTH DISTRICT MEDICAL SOCIETY met in the High School Auditorium-Armory at Washington on August 10. The scientific program consisted of titles of papers as follows: *Serum Treatment of Pneumonia*, by Dr. R. C. McGahee, Augusta; *Traumatic Rupture of Spleen—Case Report*, Dr. Harry L. Cheves, Union Point; *Acrodynia*, Dr. John A. Simpson, Athens; *The Problem of Back Injuries*, Dr. W. S. Goldsmith, Atlanta; *The Layman's Fight*, Dr. Grady N. Coker, Canton, president of the Association; *Medicine or State Medicine*, Dr. W. D. Gholston, Danielsville, president of the Society. Barbecue dinner was served on the Washington High School campus. Atlanta physicians who attended the meeting were: Doctors W. W. Anderson, L. Minor Blackford, Hal M. Davison, T. C. Davison, Edgar Shanks, R. G. Stephens, and Ross Brown.

DR. C. F. HOLTON and DR. JOHN G. SHARPLEY announce their association in the practice of medicine and surgery with offices in DeRenne Apartments, Savannah.

DR. J. F. MIXSON, JR., has been elected chairman of the Valdosta Board of Health; Dr. B. G. Owens, vice-chairman.

DR. E. B. SAYE, formerly with the Macon Hospital, has been employed as pathologist by the Spartanburg General Hospital, Spartanburg, S. C.

THE GEORGIA MEDICAL SOCIETY, Savannah, met on August 23. The program consisted of a discussion of the Basic Science Bill. Refreshments were served.

DR. LAWRENCE P. MATTHEWS announces the opening of his office for the practice of medicine and surgery in suite 211 Decatur Bank & Trust Company Building, Decatur.

THE HAMILTON MEMORIAL HOSPITAL, Dalton, announces the opening of a Cancer Clinic. The staff is composed of the following doctors: Dr. H. L. Erwin, Dalton, director; Dr. R. S. Bradley, Dr. G. L. Broadrick, Dr. B. L. Kennedy, Dr. J. C. Rollins, Dr. Henry L. Sams, Dr. E. O. Shellhorse, Dr. Trammell Starr, Dr. J. H. Steed, Dr. Leo G. Temples, and Dr. Lloyd Wood, all of Dalton; Dr. J. E. Bradford, Spring Place; Dr. R. H. Bradley, Dr. E. H. Dickie, both of Chatsworth, and Dr. T. W. Colvard, Crandall.

OBITUARY

Dr. Andrew J. Wood, Macon, formerly of Drybranch; University of Georgia School of Medicine, Augusta, 1881; aged 84; died in a private hospital in Macon after an illness of several months duration on July 16, 1938. He was a native of Twiggs county and resided there until about six months before his death. Dr. Wood practiced medicine for more than fifty years in Twiggs and adjoining counties. He was kind and loved by hundreds of acquaintances. Dr. Wood was a Mason and a member of the Baptist church. Surviving him are two sons: E. W. Wood, Macon, and E. G. Wood, Portland, Oregon. Dr. J. C. Solomon officiated and funeral services were conducted from Stone Creek Baptist church. Burial was in the churchyard.

Dr. Luke Robinson, Covington; Southern Medical College, Atlanta, 1893; aged 69; died in a private hospital in Atlanta after several weeks' illness on July 23, 1938. He had practiced medicine for more than forty years in Newton and Walton counties and was one of the prominent physicians of that section. In addition to his successful work as a practitioner, he held many responsible positions, political and semi-political. Dr. Robinson served on the city council of Covington, board of education, chairman of the Newton county board of medical examiners during the World War, and as a member and president of the State Board of Medical Examiners. Surviving him are his widow, two daughters, Misses Annabel and Lucy Frances Robinson; four sons, Reginald, Guy, Gordon and Luke Robinson, Jr. Funeral services were held at the Covington Methodist church. Rev. Claude Haynes officiated. Burial was in the Covington cemetery.

Dr. Ira Willis Ballard, Forest Park; member; University of Alabama School of Medicine, University, Ala., 1919; aged 54; died after an extended illness at his home on August 5, 1938. He practiced for a number of years at Eton, Murray county, and in more recent years practiced at Ellenwood and Forest Park in Clayton county. Dr. Ballard was a successful practitioner and had many personal friends. He was a member of the Fulton County Medical Society. Surviving him are his widow and one daughter, Miss Hattie Fawcett Ballard, Forest Park. Rev. J. F. Marchman officiated at the funeral services conducted from the chapel of Brandon-Camp. Burial was in the Opelika, Ala., cemetery.

Dr. Benjamin Harrison Gibson, Allenhurst; member; University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, Md., 1909; aged 52; died suddenly at his home on August 3, 1938. He was a native of Thomson and had resided in Liberty county for twenty-three years. He moved with his parents to Savannah when twelve years of age. After he graduated in medicine, he returned to Savannah and served as Savannah health officer, then became associated with the Dunlevie Lumber Company at Allenhurst as physician and surgeon; later in 1926, he entered private practice. Dr. Gibson was a member and had served for many years as secretary-treasurer of the Tri-County Medical Society, composed of the counties of Liberty, Long and McIntosh. He was a member of the Tri-County Medical Society, American Medical Association, Knights of Pythias, Masons, Shrine, and the Hinesville Methodist church. Surviving him are his widow, two daughters, Mrs. R. R. Lawing, Savannah; Miss Louise Gibson, Allenhurst; one son, B. H. Gibson, Jr., Allenhurst. Rev. J. F. Murren, Douglas, and Rev. C. B. Ray, Hinesville, officiated at funeral services conducted from his home. Interment was in Bonaventure cemetery, Savannah.

Dr. Ivy W. Moorman, Douglas; member; University of Georgia School of Medicine, Augusta, 1897; aged 70; died suddenly of heart disease at his home on August 11, 1938. He was born in Laurens county. Dr. Moorman was public spirited and one of the

State's best citizens. He was charitable and eager to assist the unfortunate when in distress. He was a member of the Coffee County Medical Society, member and for many years a steward in the Methodist church. Surviving him are three daughters, Mrs. Henry Roberts, Mrs. Leon Jernigan and Miss Clara Mae Moorman, all of Douglas; five sons, Emory Moorman, Jacksonville, Fla.; Harley Moorman, New York; Warren Moorman, Lakeland; Ross and Guy Moorman, Douglas. Dr. C. R. Jenkins and Rev. C. W. Curry officiated at the services conducted from the Methodist church. Burial was in New Hope cemetery near Ambrose. The stewards of the Methodist church were honorary pallbearers.

Dr. William Wallace Cornog, Lavonia; member; Emory University School of Medicine, Emory University, 1888; aged 73; died in a government hospital in Atlanta on August 25, 1938. He was a native of South Carolina. Dr. Cornog served as major in the medical corps of the United States Army during the World War and as a reserve medical officer for a number of years after the war. Dr. Cornog practiced medicine in Franklin and Hart counties for almost half a century. Dr. Cornog served as mayor of Lavonia and for a number of terms on the Lavonia Board of Education. Dr. Cornog was a member of the Franklin County Medical Society, Odd Fellows, and Methodist church. Surviving him are one son, Captain W. W. Cornog, Fort Benning; four daughters, Mrs. Mary Crawford and Mrs. Ray Cleveland, both of Lavonia; Mrs. T. B. Davis, Durham, N. C., and Mrs. Waverly Cousins, Danville, Va. Funeral services were conducted from the Methodist church. Interment was in Lavonia cemetery.

Dr. Joseph R. Brown, Lavonia; member; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1899; aged 68; died at a private hospital in Atlanta, August 19, 1938. He had practiced medicine in Franklin and adjoining counties for more than thirty years. Dr. Brown was a prominent physician and one of the State's best citizens. Surviving him are his widow, three daughters: Mrs. Ben Burton, Albany; Mrs. Robert French, Columbia, S. C., and Mrs. J. H. Hoskins, Greenville, S. C.; four sons, Merrell Brown, Macon; Pope Brown, Atlanta; Edwin Brown, New York City; Willard Brown, Lavonia. Services were conducted at the First Baptist church, Lavonia. Interment was in Burgess cemetery near Lavonia.

Dr. Wesley Jefferson, Buena Vista; University of Georgia School of Medicine, Augusta, 1874; aged 87; died on August 7, 1938. He was born and reared in Columbus, Ga., and was one of the leading pioneer citizens of West Georgia. Dr. Jefferson practiced medicine in Buena Vista and surrounding community for more than forty years. He was held in high esteem by hundreds of acquaintances. Surviving him are four daughters, Mrs. Alice Pilcher, Americus; Mrs. Tanner, Douglas; Miss Mamie Jefferson, Buena Vista, with whom he resided, and another daughter in Miami, Fla. Services were conducted from the home. Interment was in Buena Vista cemetery.

BOOK REVIEWS

Diseases of the Skin, by Frank Crozier Knowles, M.D., third edition; \$6.50. Lea and Febiger, Philadelphia.

Dr. Knowles is to be commended for his efforts in giving to the general practitioner and medical student a book comprising the fundamentals of skin diseases and syphilis. This text contains the latest trends of thought and ideas concerning dermatologic problems.

Special attention is called to the rather lengthy and interesting chapter on eczema. The author does not attempt to differentiate between eczema and dermatitis, and, if attempted, would only be the more confusing. The latest methods of treatment are described, including a number of useful prescriptions.

The chapter on ringworm infections is worthy of mention since this type of infection is prevalent in the South. Some of the more common fungi are described along with photographs of their appearance on culture media.

The chapter on syphilis and its treatment is both interesting and elucidating. Included under treatment is the recent report made by eminent syphilologists of this country, under the supervision of Surgeon General Parran, recommending a standard course of treatment for early syphilis.

This textbook is deserving of a place in the physician's library.

HUGH HAILEY, M.D.

The Vitamins and Their Clinical Application, by Prof. W. Stepp, Docent Kuhnau, Dr. H. Schroeder and H. A. H. Bouman, M.D., translator. The Wisconsin Cueno Press, Inc. Price \$4.50.

This enlightening and intensively practical manual on Vitamins has recently been translated by H. A. H. Bouman, M.D., of Minneapolis, Minnesota, and should be of interest to every physician who wants to understand the use of vitamins in his daily practice.

Practically no other branch of research has survived such tempestuous development as has vitaminology. The advantage of being able to work with pure substances is very evident and the busy physician in general or hospital practice may now through this manual inform himself in vitaminology by means of its lucid practical presentation.

The manual takes up each of the known vitamins separately, giving its history, chemistry, determination, occurrence, manifestations, absorption, clinical application, physiology, preparation and dosage.

Included is a chart of the survey of vitamins known today and a chart showing contents of essential vitamins in various diets.

Valuable information is given in the chapters on Terminology of the Vitamins, Vitamins and Human Nutrition and The Daily Vitamin Requirements for man. Extremely helpful is the extensive bibliography given for each of the vitamins.

In short, it is a well written, easily understandable, intensely practical reference book that should be in the library of every practicing physician.

This book is available from the Vitamin Products Company, Milwaukee, Wisconsin.

Synopsis of Genito-urinary Diseases, by Austin L. Dodson, M.D., F.A.C.S., Richmond, Virginia, Professor of Genito-urinary Surgery, Medical College of Virginia; Genito-urinary Surgeon to the hospital division, Medical College of Virginia; Genito-urinary Surgeon to Crippled Children's Hospital; Urologist to St. Elizabeth's Hospital; Urologist to St. Luke's Hospital and McGuire Clinic. Second Edition. 294 pages, with 112 illustrated. The C. V. Mosby Company, St. Louis, 1937.

This excellently written concise work covers in a surprisingly thorough manner all of the essentials of urology. It offers a convenient source for hurried review of the anatomy of the genito-urinary system, the urologic signs and symptoms, an outline of general and special examinations together with an excellent account of the etiology, pathology, diagnosis and treatment of the diseases and conditions included in the speciality.

Of special interest is that part of the work devoted to diet as related to infections and calculous formation. The sample menus should be of inestimable value to the average physician.

Recent advances in urology, such as the improved treatment of cryptorchidism, are to be found in this work. It also contains very excellent chapters on the functional disturbances of the bladder and the functional disturbances of the male sexual system.

The photographs and pen and ink drawings, 112 in number, are the best I have found in any single volume. They constitute a rather thorough presentation of the subject within themselves.

Besides being a very excellent text for the medical student, this synopsis is a handy reference book for the practitioner and an aid to the teacher in outlining his lectures for a course in urology such as is given to nurses.

MAJOR F. FOWLER, M.D.

The Traffic in Health, by Charles Soloman, M.D., Assistant Professor of Medicine, Long Island College of Medicine; Lecturer in Materia Medica, Training School for Nurses, Jewish Hospital of Brooklyn. Navarre Publishing Company, Inc., New York.

This volume of 393 pages is literally filled with information that every doctor should possess. While all physicians are familiar, in a general way, with the "Patent Medicine Racket," the various practices of "Cults and Quacks," and "Advertising Myths," here is a book that presents, in understandable language, the plain facts in detail from "Mythical Antiseptics" to "Cancer Cures."

This book contains a complete bibliography in addition to the index which lists practically every nostrum and fraud known in America. There is a wealth of information in the book for layman as well as doctor. Probably every well known patent medicine and cosmetic is mentioned and the ingredients, cost of manufacture and selling price listed. For example: One of the highly advertised face concoctions, familiar to the ladies for its claimed ability to produce a subtle loveliness to the skin and bring out the innocence of a maiden's blush in all the glory and intriguing coloring of rosy fingered dawn sells for \$1.00

Cost of ingredients . . . 4 cents

Cost of container 6 cents

Total cost 10 cents

In a somewhat similar way the author gives the facts about "Habit Formers and Pain Killers"; "Woman's Relief" and that galaxy of highly advertised fakes and "boon to civilization" known as laxatives, regulators, sedatives and relievers of Acid (and all other) *Indigestion*, including the well known pocketbook. It makes no difference whether you're too short or too tall; too fat or too thin, the so-called "laboratories" have a "cure" and tell you all about it in your peerless newspaper or on the wings of song and slapstick via the radio. "In 1934, 224 companies spent \$89,212,898 for advertising in 123 printed media. At the same time 148 advertisers spent heavily on the radio, 9 of them putting out over a million dollars each. The radio bills of Kolynos came to \$368,643, Bisodol \$235,111, Anacin \$202,876, Ex-Lax \$128,982, Bayer Aspirin \$498,287 and Vick Chemical \$333,854." And the gullible citizens pay the bills and suffer the consequences! Lack of space here prohibits further itemizing, but read the book and learn more of the inside figures on Peruna, Lydia Pinkham's Compound, Fleischman's Yeast, Crazy Water Crystals and others too numerous to mention. Acquaint yourself with the "Red Clause" and its effect on newspapers advertising proprietary medicines.

The author discusses some of the legislative acts that have been introduced in some states aimed at curbing this ever increasing menace to the health and lives of our citizens. He points out that we, as citizens should inform ourselves, "organize and act concertedly in the spirit of science and in the light of the knowledge it has bestowed upon us" else "we shall continue to be defrauded by charlatans and injured physically by harmful nostrums and cosmetics."

Your reviewer urges you to read this intensely interesting and informative book. Indeed it would not seem unwise to recommend it to the superintendent of every school, both public and private, with the suggestion that the book be placed in the library and read, if possible, by each high school student.

ED H. GREENE, M.D.

COURSE IN SURGERY FOR NURSES

GEORGIA BAPTIST HOSPITAL

In connection with the course in surgery given to the nurses, the following motion pictures will be shown in the main dining room of the hospital at 8:15 P. M. on dates indicated below. These films are loaned by the Davis & Geck suture people and have been made in the larger eastern clinics. The films shown last year seemed to be of such interest that it is felt that the doctors might be interested, and the program has been arranged to last approximately one hour, and as nearly as possible related subjects are shown.

September 8—"The Relation of Absorbable Sutures to Wound Healing"; September 22—"Suture Technic," "Pulmonary Lobectomy," "Traumatic Surgery of the Extremities"; October 13—"Hernioplasty and Lipectomy," "Cholecystectomy and Chol-

edochostomy," "Subtotal Gastrectomy"; October 27—"Abdomino-Perineal Resection," "Modified Mikulicz Operation," "Complete Colectomy"; November 10—"Single Stage Lobectomy," "Pneumonectomy," "First Stage Thoracoplasty," "Second Stage Thoracoplasty"; December 8—"Subtotal Thyroidectomy," "Thyroidectomy in Detail," "Subtotal Hemithyroidectomy."

LICENSE TO PRACTICE BY CITIZENS

RESOLUTIONS BY A. M. A.

At the meeting of the American Medical Association in San Francisco the House of Delegates adopted the following resolution which is respectfully called to your attention:

WHEREAS, The license to practice medicine and surgery in many countries is limited strictly to citizens of these countries; and

WHEREAS, In addition to holding full citizenship, each applicant is required in several of these countries to show that his medical education was pursued and completed in said countries; and

WHEREAS, Many foreign graduates in medicine and surgery in increasing numbers are seeking admittance to the practice of medicine in these United States; and

WHEREAS, In order to convey adequately to these applicants a full and satisfactory knowledge of the American conception of patriotism and of ethical ideals in medicine, it is necessary that a period of residence be required; therefore be it

RESOLVED, That in addition to the requirements for foreign graduates, as outlined in a resolution adopted by the House of Delegates for the American Medical Association in 1936, it is highly desirable that an additional requirement of full citizenship in the United States of America be demanded; and be it further

RESOLVED, That the House of Delegates of the American Medical Association approve the foregoing and that a copy be sent to the properly constituted officers of each examining board of the United States and to the Federation of State Medical Boards, with the request that they consider seriously urgent need for the adoption of such rules and/or legislation necessary to put the purposes of these resolutions into effect.

OLIN WEST, M.D., *Secretary*
American Medical Association.

COMMUNICATION

THINGS SEEN, HEARD AND THOUGHT WHILE ON VACATION

To the Editor:

Three Georgia doctors, while playing the 19th hole, without any reason displayed their herniotomy scars and discussed them at length without being called down, though a doctor from Tennessee, who is the father of five doctors, thought they were usurping the rights assigned long ago to woman.

A little boy who rode a gentle old horse all day, led by an elderly gentleman who owns the hotel, but still loves children, complained to his mother that he had two boils on his seat and one on each leg. His mother explained that horseback riding caused his troubles, but

he promptly objected on the grounds that he felt them coming before he left Georgia. A lady fell and broke her arm, a young man gathered poison ivy along with archery knowledge. A lady, upon learning that I was a doctor, discussed her colitis with me and wanted me to smell her medicine and tell her whether I thought it was the best drugs for treating her complaint.

Last night, after the excitement resulting from a lady falling in the hotel lobby and fracturing her wrist, conversation naturally led to a discussion of personal experiences. One smiling, soft spoken man from Georgia, after sitting quietly listening to several hotel guests tell their tales of woe, took his bill folder from his pocket and displayed a faded old prescription blank on which was written in 1906 by a young doctor at a famous watering place in upstate New York: Diagnosis: "Aneurysm of the abdominal aorta." The old gentleman stated that the doctor requested him to stop in New York and give the paper to Dr. Janeway and ask his opinion. Janeway was in Europe, so our fellow Georgian put the note in his pocket and returned to his family physician in Georgia who gave assurance that he found no evidence of aneurysm of his abdominal aorta. The note has been handled so often until it is now pasted on thick paper. Moral for doctors: See the unusual things last.

Another quest told how a young physician established himself quickly in her community by using an instrument which no other doctor in the locality possessed or understood the handling of, an uneven break for the doctors, as it should be. It is well for all doctors to remember that their deeds and actions deeply impress, so it is quite important, at least while at home, to guard against unkind remarks, particularly against their confreres and avoid snap diagnosis, lest they get into a purse instead out of one.

J. A. REDFEARN, M.D.
Albany.

July 30, 1938
At Waynesville, N. C.

A MINIMUM MEDICAL AND SURGICAL FEE SCHEDULE

(Continued from page 358)

| | |
|------------------------------------------------|-----------------|
| Cell count | 2.00 |
| Globulin | 2.00 |
| Simple culture | 5.00 |
| Smear for bacteria | 2.00 |
| Tubercle bacilli | 3.00 |
| 12-hour sedimentation test | 5.00 |
| Full spinal fluid exam. for syph., Wass., Col. | |
| gold, cell, glob | 10.00 |
| Animal inoculation | 10.00 |
| Spinal puncture | 10.00 |
| <i>Frozen Section</i> | |
| In hosp., path. at operation | 15.00 |
| Outside | \$5.00 to 10.00 |
| Routine tissue | 5.00 |
| <i>Miscellaneous Items</i> | |
| Throat culture, diph., strep. | 5.00 |
| Smears, all, except otherwise noted | 3.00 |
| Search for bacilli in exudates | 3.00 |
| Sputum for T. B. | 3.00 |
| Simple sputum culture | 5.00 |
| Special sputum culture | 5.00 |
| Sputum microscopic | 2.00 |
| Vaccines sputum or autogenous | 10.00 |
| Typing of pneumococcus | 10.00 |

| | |
|-------------------------------------------------------------------------------------------------------------------------|-------|
| Fungus exam. and culture | 10.00 |
| Allergy test, plus cost of material | 25.00 |
| Dark field, no charge for smear venereal, etc. | 5.00 |
| Stomach contents for ferments | 5.00 |
| Ewald or retention | 5.00 |
| Fractional Refbus | 5.00 |
| Bacteriophages | 10.00 |
| Calculi | 5.00 |
| Routine gastric analysis | 6.00 |
| Parasites | 3.00 |
| Typhoid and para cultures | 5.00 |
| Micro. for bacteria, etc. | 3.00 |
| Urobilin | 3.00 |
| Urobilin, quant | 5.00 |
| Histamine | 3.00 |
| Occult blood only | 2.00 |
| Ferments | 5.00 |
| Simple culture | 5.00 |
| Special culture | 5.00 |
| Fats—quant | 5.00 |
| Basal metabolism | 10.00 |
| Immunology and allergy | 25.00 |
| Spinal puncture with manometric determination | 10.00 |
| Complete post-mortem and report without micro. work | 50.00 |
| Complete post-mortem and report with tissue micro. examination | 75.00 |
| Other post-mortem laboratory work as scheduled above. | |
| When pathologist visits patient's home or other place to obtain specimen, add \$3.00 for home visit to the above items. | |

The attending physician will not make charge for obtaining specimen, except spinal puncture (\$10.00).

*This is a minimum medical and surgical fee schedule prepared by the Sub-Committee on Medical Economics of the Medical Association of Georgia as authorized by the House of Delegates at Macon on May 11, 1937, subsequently approved by the Council, June 16, 1937; and published by authority of the House of Delegates in session in Augusta, April 29, 1938.

FIFTH DISTRICT MEDICAL SOCIETY MEETING

ATLANTA, OCTOBER 6, 1938

6:00 P. M.—*Buffet Supper*

Given in honor of the Fifth District Medical Society and guests by the Woman's Auxiliary to the Fulton County Medical Society.

7:00 P. M.—*Scientific Session*

1. Address of Welcome—C. C. Aven, M.D., Atlanta, President of the Fulton County Medical Society.
2. Factors Influencing the Mortality of Ruptured Gastric and Duodenal Ulcers—T. C. Davison, M.D., Atlanta, President of the Southeastern Surgical Congress, and Fred F. Rudder, M.D., Atlanta.
3. Some of Our Mistakes—Grady N. Coker, M.D., Canton, President of the Medical Association of Georgia.
4. Rabies (Motion Pictures)—M. L. Blatt, M.D., Chicago, Professor of Pediatrics, University of Illinois.
5. The Diagnosis and Management of Acute Cholecystitis—Howard M. Clute, M.D., Boston, Mass., Professor of Surgery, Boston University (formerly with Lahey Clinic).
6. Business.
7. Election of officers.

HALL OF HEALTH AT SOUTHEASTERN FAIR

The Hall of Health which will be sponsored by the Fulton County Medical Society at the Southeastern Fair, October 2-9 inclusive, is designed to be one of the biggest projects the medical profession in this State has ever undertaken. What is it? The answer is that it will be another means of educating the public along questions of health and what the medical profession has done and is doing for the health of the citizens of Georgia. We have said for two years that our problems will not be solved except by educating the public. Today the public wants a picture, something that will make an impression on first sight. The Hall of Health will endeavor to give in a visual manner the story in safeguarding health.

Similar undertakings have been successfully handled in Milwaukee and Kansas City, drawing over 100,000 persons.

The following organizations will have appropriate exhibits: The Medical Association of Georgia, the Department of Public Health of the State of Georgia, the City Health Department of Atlanta, the County Health Department, the Fulton County Medical Society, Georgia and Atlanta Tuberculosis Associations, the Fifth District Dental Society, the Fifth District Druggists Association, Emory University School of Medicine, the Medical Department of the University of Georgia, the Fifth District Nurse's Association, the Atlanta Hospital Association, the Atlanta Dietetic Association and the American Medical Association.

The exhibit will occupy one half of one side of the Educational Building at the Fair. It is being planned with a view to making it attractive as well as instructive. The space is ample for all exhibits and standing room for those viewing it.

The center of attraction will be The Transparent Woman which will be loaned through the courtesy of S. H. Camp and Company. This is a life-sized figure of a woman built over an actual skeleton with the internal organs reproduced in natural color and illuminated as the lecturer describes the physiology of the woman. This will be her initial trip south.

Progress in medicine and surgery will be depicted. Proper care of the teeth will be shown. Advances in the treatment of syphilis, tuberculosis, cancer and preventive medicine will be stressed. There will be numerous charts furnished by the American Medical Association which will tell the story of health in many attractive and impressive ways.

The Fifth District Pharmaceutical Association will show the history and facts about drugs. The nurses will also have an attractive display.

The Council of the Medical Association of Georgia has appropriated a fund to be used as our part in this public relations project. We will show the availability of doctors in our State, tell something of famous Georgia doctors and their contribution to Georgia. We will also distribute literature presenting the various legislative needs to promote good health among our citizens and several other features which will have to be worked out.

Some will probably want to know the necessity of the exhibit or the purpose of it. Because today the medical profession must push the story of good health to the public and we must take every step possible to show that health, which is their greatest asset, is safe only in the hands of competent medical doctors.

The entire exhibit will be a move by the Fulton County Medical Society to have all the allied health agencies present to the public the facts about the health of the human body and how it can best be secured and preserved.

RUCH, WALTER A.: ANALGESIA DURING THE FIRST STAGE OF LABOR. *AM. J. OF OBST. & GYN.*, 35:830-834. (MAY) 1938.

In this series of 755 obstetric cases, Ruch has reported on the effects of a combination of Dilaudid 1/32 grain and scopolamine 1/130 grain used for first stage analgesia. Also, an analysis was made of the possible effect of ethylene, nitrous oxide, ether and other drugs used for second stage anesthesia on the condition of the baby.

By far, most of the mothers obtained good analgesia from the Dilaudid-scopolamine combination. Apnoea in the infants was of no great consequence in most cases, as they responded to minor resuscitation procedures, such as rubbing of the back, thumping of the feet, and began to breathe very quickly after mucus had been removed from the throat. The incidence of asphyxia was slightly greater when ether was used for second stage anesthesia. The only cases of deep asphyxia (3 in all) which occurred followed the use of the latter anesthetic. There were 3 stillborn babies, one of which had an intracranial hemorrhage following a rapid second stage in a multipara; the other 2 were stillborn as a result of a prolonged period of "molding" in primiparae.

Several of the babies were X-rayed on the second day of life to determine whether or not they had an enlarged thymus gland. Some of these mothers had entered the hospital too late for semi-narcosis, but others were included in the series. In the 378 cases examined by X-ray, it is found that atelectasis was present in 24 of the babies, but only one of the babies showed any active symptoms. The lungs were completely expanded at the end of 3 to 5 days in all except 4 or 5 babies. Several of the babies who showed slight atelectasis in the X-ray picture were from mothers who had no semi-narcosis during the first stage.

Ruch concludes his report: "In a series of 755 cases, 1/32 grain of Dilaudid and 1/130 grain of scopolamine proved to be a satisfactory combination for the production of semi-narcosis during the first stage of labor, providing a pleasing analgesia for the mother with little, if any, effect on the baby. In some cases a small dose of one of the barbiturates was administered in conjunction with Dilaudid-scopolamine analgesia. When ethylene or nitrous oxide was used for anesthesia in the second and third stages, apnoea occurred in only 4.2 per cent of the babies. With ether, respiratory difficulty was encountered more frequently."

INTERNATIONAL ASSEMBLY
INTER-STATE POSTGRADUATE MEDICAL
ASSOCIATION OF NORTH AMERICA

The twenty-third International Assembly of the Inter-State Postgraduate Medical Association of North America will be held in the public auditorium of Philadelphia, Pennsylvania, October 31, November 1, 2, 3 and 4, 1938. All scientific and clinical sessions will take place in the auditorium. Hotel headquarters will be the Benjamin Franklin Hotel.

The members of the medical profession of Philadelphia are correlating for the clinics, an abundance of hospital material representing various types of pathological conditions which will be discussed by the contributors to the program.

In the neighborhood of eighty distinguished teachers and clinicians will appear on the program, a tentative list of which may be found in the advertising section of this Journal. The subjects and speakers have been selected to consider practically all the subjects of greatest interest to the medical profession in general.

A full program of scientific and clinical sessions will take place every day and evening of the Assembly starting each morning at 8:00 o'clock. On account of the fullness of the program, restaurant service will be available at the auditorium at moderate prices.

The members of the profession are urged to bring their ladies with them as a very excellent program is being arranged for their benefit by the Ladies' Committee. Philadelphia has many places of historic and other interests, which will make this year's program especially attractive to them.

Pre-Assembly and post-assembly clinics will be held in the Philadelphia Hospitals on Saturday, October 29 and Saturday, November 5.

It is very important that you make your hotel reservation early by writing Mr. Thomas E. Willis, Chairman of the Hotel Committee, Chamber of Commerce Building, 12th and Walnut Streets, Philadelphia, Pa.

The Association, through its officers and members of the program committee, extend a very hearty invitation to all members of the profession in good standing in their State and Provincial Societies to attend the Assembly. The registration fee is \$5.00.

DR. ELLIOTT P. JOSLIN, *President,*
Boston, Mass.

DR. GEORGE W. CRILE, *Chairman,*
Program Committee, Cleveland, Ohio.

DR. WILLIAM B. PECK, *Managing-*
Director, Freeport, Illinois.

The method that GLENN MAJOR, Pittsburgh (*Journal A. M. A.*, April 16, 1938), describes for the gradual reduction of horizontal fractures of the maxilla is based on the principles of skeletal traction and involves a Kirschner wire. It is considered valuable for three reasons: It effects gradual and complete reduction of these fractures, and tremendous force may be exerted, if desired, with practically no discomfort to the patient; the apparatus can easily be applied with the patient under local anesthesia, and there is little possibility of additional intracranial injury or infection, because of the gradual reduction. A concomitant fracture of the mandible may occasionally be a contraindication to this method. Ordinarily the method is not applicable in the treatment of edentulous persons.



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SYMPOSIUM ON UROLOGY

UROLOGIC CONDITIONS IN CHILDHOOD*

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Columbus

Increasing interest has been aroused in urologic problems in infancy and childhood as evidenced by an excellent book by Campbell and a number of recent important articles. The diseases encountered are much the same as those seen in adults, but the clinical and mechanical problems are often quite different and the instruments required are generally of special caliber and design. In the year 1898 an English author wrote concerning the treatment of childhood diseases of the urinary tract; in 1918 Hyman and Beer reported an analysis of thirty cases and Caulk wrote an article on, 'Urological Problems in Children.' Young, Kretschmer and others have laid great stress on the importance of careful cystoscopic studies in urologic conditions in infants. No great difficulty is usually experienced, when the proper instruments are at hand, in carrying out thorough diagnostic work or therapeutic measures as they are indicated.

With modern urologic knowledge even young infants may receive the benefits of surgical treatment, urosurgical treatment varies from circumcision through dilatation to nephrectomy. A detailed study of the genito-urinary organs is highly desirable; enlarging experience shows that with proper attention to operative technic and liberal use of preoperative and postoperative supporting measures the very young withstand radical treatment as well as their elders and often far better.

Helmholz and others have endeavored to instruct practitioners in general and pediatri-

cians in particular that the clinically convenient, although hopelessly inadequate, diagnosis of pyelitis in every child who manifests urinary infection is as often incorrect as the opinion that, should there be a pyelitis, it is a self-limited disease. The more severe infections, if untreated, result in early destruction of the kidney. There are no doubt a large number of cases of pyelitis occurring later in life, usually following drains upon the body as a whole and the kidney as a part, such as acute illnesses or pregnancy, are but neglected low grade infections present since infancy. Many present may have watched patients pass through childhood to reach adult life with destructive renal processes which might have been prevented.

Because 40 per cent of chronic pyuria is the result of some congenital anomaly, a correct anatomic diagnosis should be established by a complete urologic examination. This includes cystoscopy, ureteral catheterization, divided renal function tests, urine examination, retrograde and intravenous pyelography, or urography if you wish. Congenital stricture and valves at meati and in other parts of the urinary tract present immediate explanation for obscure urinary difficulties; congenital defects as epispadias and exstrophy are often associated not only with incontinence but subsequent infection. Rectal examinations more thoroughly and more carefully made give valuable information. The bladder capacity of a child of one year is 100 cc. A large amount of residual urine requires the same care as in an adult. Two-day-old boys have had their urethras catheterized, using ureteral catheters, following retention resulting from thin membranous valves. Ureteral catheterization is carried out as on an adult except that in boys and very young girls usually one side is catheterized at a time. As

*Read before the Medical Association of Georgia, Augusta, April 28, 1928.

infection of the kidney is much more common in girls than boys, a large class is easily amenable to diagnostic methods of modern urology. Unfortunately these methods are rarely called into use and much propaganda is desirable to show clinicians the availability and simplicity of these important methods; and to be prevented, should instrumental therapy be needed, it can be readily performed.

In 50 per cent approximately, where involvement of the upper urinary tract is suggested by the clinical symptoms, the information afforded by intravenous urograms will be wholly adequate. When in doubt after viewing the excretory urogram, remember that is is only extremely helpful in some cases and demands a prominent place in urology, but for positive evidence retrograde urography may be required. In doing intravenous urography children must be given disproportionately larger doses of the medium than adults.

Red blood cells in urine are never normal and always present a pathologic lesion in the urogenital tract. There is no valid excuse for prescribing any treatment until a thorough examination has been made and source and underlying pathology determined. Three-fourths of the hematurias are caused by infection, tumor, calculus and tuberculosis; the general profession should acquaint themselves with this fact.

Oral therapy for urinary infections is limited. Mandelic acid for bacillary infections, if renal function is normal and the drug is properly administered, will not produce renal damage. Should the function be subnormal mandelic acid is not only injurious but is useless. Ketogenic diet may be employed when there is a contraindication to the above. Sulfanilamide is a valuable adjunct both for the bacillus and coccus group; children react more favorably to this drug than do adults. According to Braasch it is the answer to the urologist's prayer in combating proteus, both in its vulgar and ammoniac forms. This drug should be administered only under careful supervision. There is a vast difference in results obtained in therapy for chronic and recent renal infections. The pH of the urine is not of much diagnostic importance here unless it is distinctly on the alkaline side; knowledge

and adjustment is however essential to intelligent treatment.

It is not within the province of this dissertation to present to you in detail the large number of pathologic entities which might be encountered. In a series of 4,903 autopsies in infants nearly every conceivable irregularity was present, anatomical abnormal kidneys were associated with enlargement of the verumontanum, valves of the urethra, bladder and ureters and strictures or stenoses. Blind ureterocele occurred in 17 per cent, tuberculosis varied from 6.0 to 16 per cent depending upon its association with pulmonary lesion, bladder tumors have been found, although embryonal tumors are most frequent. Sarcoma of prostate or lower urinary tract is not uncommon. Renal rickets is a clear entity but is also a name that can be played with, rupture of the fetal bladder has been noted. Patent or persistent urachus and congenital urachus fistula are rare but their very elusive infrequency has led to discovery of many causes of infection and pain. Wilms tumor or adenomyosarcoma of the kidney appears frequently in the larger clinics. There are other malignant tumors of the urinary tract for which early diagnosis is imperative and radiation therapy intensively preoperatively and postoperatively is the only hope. Allergy of the urinary tract has been proven in the adult and Bray has over a hundred cases in children of enuresis relieved by therapy based on allergic principles.

The figures are not from exceptional cases, all gross abnormalities are omitted.

1. Fig. 1 is from a twelve-year-old girl with pain in lower left quadrant and pyuria. The urogram demonstrated an opaque object resembling a calculus in the lower third of the left ureter. Attempts to pass a catheter or filiform by this obstruction were futile for some time.

2. Fig. 2 shows that a catheter did pass, the calculus was removed by ureterotomy as it was fixed in the ureter. The multiple cystoscopic examinations were carried out with urethral anesthesia and analgesia plus cooperation of the patient. More recently the use of avertin per rectum or injected into the ureter has been of decided advantage, or so it seems, in the removal of calculi either by relaxing the ureter and permitting the foreign object to pass or permitting instruments to be passed above the calculus. It has not yet proven to be harmful.

3. Fig. 3 is from a young lady who was the most cooperative patient encountered over many years. At the age of four with urethral anesthesia, a little psy-

chology and a willing mother, a series of operations, cystoscopies and examinations were begun. These were performed over a period of three years. This plate is of a roentgenogram made with intravenous medium, the shadow in the middle of the left ureter is not a calculus. The condition shown is from a wedge shaped stone in the pelvis of the kidney. Recovery was not uneventful as you have gathered, but she is now a happy schoolgirl. Calculi in children are not uncommon; a boy of ten required a nephroureterovesical operation to remove fifteen stones. Bear in mind that calcium phosphate stones are accelerated by alkaline urine which precipitates phosphates. Promiscuous alkalinization of the urine is a potential danger.

4. Fig. 4 is a pyelo-ureterogram demonstrated by intravenous urography in a ten-year-old girl with demonstrable kidney outline. A filled ureter, in an excretory urogram, denotes an abnormality in the light of present day knowledge of ureteral peristalsis. Full explanation to children of what is to be done and what you wish to accomplish and what you wish to avoid gains permission from them readily for the intravenous work.

5. Fig. 5 is a retrograde pyelogram of a very nervous and ill child of 4, cystoscoped with use of evipal in dosage to produce sleep for approximately ten minutes. The light on the infant scope went out as the catheter had just entered the ureter; the catheter was left in as the cystoscope was removed for fear another bulb was not at hand, the light was repaired, catheter threaded through the instrument, catheterization resumed and completed, specimen collected and medium injected before the patient awakened. The parents were apprehensive in this case as they had never heard of a drug of this nature. Properly used too much cannot be said for evipal or like drugs. They permit any minor work that can be performed in a limited time.

6. Fig. 6 was made from an intravenous urogram and demonstrated a cyst of the upper pole of the left kidney which fills up during periods of exacerbation and as the condition improves empties.

7. Fig. 7 is from the same patient and shows improvement. This girl of ten had multiple examinations and during cystoscopy appreciated evipal to such an extent that she asked for it. Her fears were due to pain produced elsewhere while under treatment. There are times when hospitalization is a most important adjunct even though you obtain all of the cooperation desired. This case is a glowing example.

8. Your attention is particularly called to this case (Fig. 8). Until this girl of 6 had a complete urologic examination and subsequent treatment she had for several years been subject to repeated attacks of pyelitis. Pediatricians had given her all of the drugs but never did they suggest an examination. Incidentally the entire treatment at their hands had consisted of urinary antiseptics. This slide shows good kidney outline.

9. Fig. 9, from the same case, shows slight clubbing of the upper calyx. After four years there has been no return of any symptoms in this patient.

10. Fig. 10. A nine-year-old boy admitted with chills, fever, pain and swelling over the right kidney area with attendant symptoms. Evipal was employed

as the anesthetic. Urethra, bladder and ureteral meati were normal; right ureter was catheterized, staphylococci predominated in the stained specimen, urine and blood culture. The areas seen in the urogram which might appear as due to over distension are small abscesses proven at nephrotomy.

11. Fig. 11 is of an intravenous urogram which is not demonstrative of the real condition of this child. The nephrotomy mentioned partly relieved the condition but autopsy revealed multiple abscesses of the liver with generalized septicemia.

12. This child of five (Fig. 12) had pyuria of some years standing, sufficient evidence was produced by intravenous pyelography in this case. In the plate you fail to see a right psoas muscle line; repeated roentgenograms failed to demonstrate this line for some time. With improved technic the line can be shown in children where it is absent with no evident pathology producing the absence. In considering perinephric abscess, which is the most frequent cause of absence of psoas muscle line in urograms, all adjacent structures must be considered in a differential diagnosis. Clinical signs and symptoms may be erroneously present or erroneously absent, operation should be done where suspected but should be considered an exploratory one.

The urologist should not be called into the picture to rule out disease of the urinary tract, in other words to demonstrate mechanically whether or not the kidney and ureter are the seat of a lesion. He should take part in the solution of the whole puzzle; he has been trained to take the entire body into consideration and should be permitted to take his history, interpret symptoms, and by using his unaided natural resources to see first whether a correct diagnosis can be made without depending too much upon mechanical and laboratory aids. To you he may be a specialist but in reality his work is limited to diseases involving the urinary tract because of the appeal to him plus the fact that the technical requirements are too great for every practitioner to undertake to perform all of them. As there is closer cooperation between the general practitioner, pediatrician and urologist in the investigation and treatment of pathologic conditions of the urinary tract during infancy and childhood, suffering by the patient now and in future years will be lessened.

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THE CONSERVATIVE TREATMENT
OF CHRONIC PYELONEPHRITIS*

A Brief Summary

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Atlanta

Medical literature is abounding with discussions of various methods used for the treatment of chronic pyelonephritis. It would seem that the subject is inexhaustible. And so it is, for medicine in urology is progressing with time and the advent of a new drug means a change of procedure in treatment. Then the old familiar problem greets us again—how to treat and yet be conservative in that treatment. I would like to state here that to me conservative treatment means merely aiding nature to defeat infection.

To assist nature in her defense against bodily infection, one must thoroughly understand what is going on. Briefly, pyelonephritis of the kidneys producing one or more abscesses in the kidney substance. These abscesses may coalesce to form one large abscess, and the ultimate result is a destroyed kidney. The infection may reach the kidney by any one of four routes: through the blood stream, through the lymphatic channels, by ascending infection from the bladder and by direct extension from a neighboring inflammatory process. The most common source is through the blood stream.

Essential in the treatment of pyelonephritis is its early recognition and thorough treatment. This can be accomplished only by an adequate investigation to determine the type of infection and pathology present. A complete urologic study will impart this information and also indicate the proper method of treatment. Such a study should include a cystoscopic examination with ureteral catheterization, x-ray with pyelogram in the prone and erect positions, and a bacteriologic study of the urine with examination of stained smears of the sediment and the data obtained on culture. Often it is advisable to re-check findings with intravenous urography. Repeated cultures of urine may be required to detect the infecting organism producing the

pyelonephritis. Information from cultures will be more easily obtained if the condition is resulting from an extension of infection in the renal pelvis to the deeper structures. Approximately 50 per cent of cases of pyelonephritis show the infecting organism to be in the bacillus group (usually colon bacillus) and cultures are readily grown on ordinary culture media. Cultures of the coccal group are not so readily grown and require a longer period of time to isolate the organism. Fortunately, those organisms that produce the greatest and most rapid damage to the renal substance are those most easily grown and isolated. For this reason, the infecting organism should be isolated before irreparable damage is done to the kidney.

That tuberculosis of the kidney may produce pyelonephritis is a known fact, but it will not be discussed at length in this paper. If only one kidney is affected and there is no evidence of active tuberculosis elsewhere in the body, surgical removal of the diseased kidney often results in a cure. Otherwise, reliance must be placed on general care as of any other tuberculous patient.

In the past, treatment for pyelonephritis consisted of cystoscopic and ureteral catheterization for pelvic lavage. Today, this has been superseded by other therapeutic measures. Cystoscopic and ureteral catheterization for the sole purpose of pelvic lavage is being discarded and this method is used only in those cases requiring dilatation of the ureter to promote sufficient drainage and in the presence of an excessive pyuria.

It is contended that pyelonephritis will become chronic only when there is obstruction to the flow of urine. Certainly, the successful treatment of any infection of the kidney depends upon adequate drainage. Thus the treatment of pyelonephritis should begin with corrective measures to establish a free flow of urine in accordance with the findings revealed by a complete urologic study. Strictures of the urethra must be dilated, foreign bodies or tumors of the urethra must be removed, a prostatitis must be treated or even some form of prostatic surgery may be required to establish free drainage from the bladder. A urethral meatotomy may be found necessary to relieve obstruction. Often there is need to

*Read before the Medical Association of Georgia, Augusta, April 28, 1938.

resort to an indwelling catheter to the bladder or kidney pelvis. Foreign bodies and tumors must be removed from the bladder itself; ureteroceles must be destroyed and ureteral strictures dilated to promote drainage. The passage of a ureteral stone must be effected to avoid interference with the flow of urine from the kidney. Mechanical obstructions such as kinks of the ureter due to adhesions or ptosis, and aberrant blood vessels must be corrected. Certainly, if stones are present in the kidney pelvis, they must be removed as early as the patient's condition will allow, before recovery is possible. Some of the above mentioned corrections require surgical procedure, others require only manipulation and local treatment.

When an examination reveals some mechanical form of interference with drainage resulting in marked kidney damage, this can readily be eliminated by performing a nephrostomy. At the time of operation, the necessary corrective measures may be taken such as anchoring the kidney in its proper position, freeing adhesions to the ureter, removing stones from the renal pelvis, doing plastic work on the pelvis and ureter, removing aberrant blood vessels and renal tumors. A more rapid recovery from pyelonephritis will follow, due to proper drainage being established through the ureter as well as through the nephrostomy tube. Pelvic irrigation to combat infection can be done through the nephrostomy tube. The devitalized tissues will be relieved, kidney substance regenerated and kidney function improved. When pyelonephritis has advanced to the formation of a large abscess, from coalescence of numerous smaller abscesses, excision and drainage becomes necessary. However, these abscesses frequently rupture and drain into the renal pelvis leaving a large cavity as a result. Following nephrostomy, these cavities fill up rapidly.

Drugs have long been used in the treatment of kidney infections and it is interesting to note that the time-honored remedy of administering methenamine with a drug to increase the acidity of the urine is the most common method of attack in use today. However, continued research work has added much to our knowledge regarding the action of

various drugs on bacteria. It has been learned that methenamine is effective only in acid urine. It requires large doses and benefit is derived solely in the bacillus group of infections.

Since the advent of methenamine numerous drugs have been used with varying degrees of success. The amino dyes appeared and though these drugs did not eliminate all other types of treatment as hoped, they are still successfully used in a minor percentage of cases. Later intravenous therapy, using mercurochrome, acriflavine, metaphen and hexamine, attained diverse degrees of success. The mercurials and neoarsphenamine administered intravenously proved most effective in the treatment of the coccal infections. Various forms of vaccines including autogenous and stock vaccines, bacteriophage and foreign proteins have been tried with disappointing results. Hexylresorcinol was introduced and its surface tension has proved of some value.

Following this, the ketogenic diet made its appearance—so complicated that it became almost necessary to place the patient in a hospital under the care of a very capable dietitian in order to obtain results. The results of the ketogenic diet in treating infections depends entirely on rendering the urine acid. If the diet is tolerated by the patient and an average pH of 5.5 is maintained for seven to twelve days, creditable results are noticed. From this bewildering therapy evolved the mandelic acid chemotherapy which has made the ketogenic diet comprehensible and which has proved equally as efficacious. However, some mandelic acid preparations are tolerated better than others.

Most efficient of all urinary antiseptics known to date is that recently acclaimed drug—sulfanilamide. This drug has afforded additional means of combating the bacillary and coccal types of infections at the same time. Maximum doses are necessary for best results, but such doses sometimes produce serious reactions. Fortunately, the duration of such reactions is brief if fluids are forced and administration of the drug is discontinued. Though sulfanilamide is, at this time, rapidly being recognized as one of the most powerful urinary antiseptics known, it is a treacherous drug demanding intelligent supervision in its administration.

Experiments are now being made with thermotherapy in connection with chemotherapy for the treatment of kidney infections. Just how valuable this method of treatment will be, remains to be determined.

Remarkable progress has been made in the treatment of chronic pyelonephritis and the present day chemotherapy promises much toward eradicating this condition. Yet, if we are to supervise this new mode of chemotherapy intelligently, we must not lose sight of the fact that our time-tried retrograde pyelograms will reveal the adjunct of prime importance—adequate drainage, first, last and all the time.

COMBINED SULFANILAMIDE AND LOCAL TREATMENT OF GONOCOCCIC INFECTIONS*

SAMUEL J. SINKOE, M.D.
Atlanta

In a report by the United States Public Health Service during 1927, the survey on the incidence of gonorrhea showed there were 474,000 cases constantly under treatment or observation in the United States. There have been 20,000 cases of gonorrhea among the young men enrolled in the Civilian Conservation Corps during the past four years, and the cost of treatment to the United States Government has been about \$900,000 a year. It has been estimated that there are 679,000 fresh gonorrheal infections in the United States each year.

The treatment of gonorrhea has always been a baffling and puzzling problem due to the fact that we are dealing with an organism which has been difficult to destroy, because of its penetration into the glandular structure of the urethra and its extension by contiguity. Complications have been numerous, and in many cases the disease has run a protracted course lasting for several months. Posterior urethritis, epididymitis, or an acute prostatitis has developed within a comparatively short time following the onset of the infection. The involvement of the glandular structure of the urethra, comprising the glands of Littre, the crypts of Morgagni and Cow-

per glands, has added to the chronicity of this disease. The presence of an arthritis or endocarditis during the course of a severe Neisserian infection emphasizes the destructive power of the organism, particularly if the patient is run-down and of lowered resistance.

The medical profession is familiar with the numerous remedies which have been recommended for the cure of this disease. It is true that more attention has been directed to the local management of gonorrhea than to the systemic processes engaged in destroying the organism. For years, research workers have been trying to find the perfect germicide which will penetrate the urethral mucosa in an effort to reach the organisms. The fact that so many drugs have been tried only to result in failure, has proven that the disease must be attacked from more than a local angle. When one analyses the various factors involved in the cure of this disease, his immediate thoughts are directed toward defensive body processes. Certain theories, e.g.—phagocytosis or the envelopment of the gonococcus by the leukocyte, have been advanced by some investigators as playing an important role in the cure of gonorrhea. As a result, various drugs have been employed which would produce a leukocytosis. Foreign protein intramuscular injections, and intravenous injections of dilute hydrochloric acid have been employed for this purpose; the results, unfortunately, have been questionable. Then again, there was advanced the formula of "antibody formation." No one will deny the fact that an infection due to the gonococcus does not differ from any other infection insofar as the protective mechanism of the body is concerned. With this idea in mind, gonococcic vaccine has been administered in numerous cases, and when used in proper dosage, many physicians have reported excellent results. Recently Corbus, following the studies of Clark, Ferry, and Steele, conceived the idea of treating gonococcic urethritis by intradermal injections of specially prepared gonococcus filtrate, with the object of establishing an active immunity to the extracellular toxin of the gonococcus. The filtrate was obtained by growing the gonococcus in a suitable liquid medium. The sterile bouillon filtrate from young cultures contains this

*Read before the Medical Association of Georgia, Augusta, April 28, 1938.

extracellular toxin in sufficient concentration to give positive skin reactions in susceptible individuals in dilutions of 1:1,000 to 1:1,500. The injections have been recommended in the following doses: commencing with a dose of .05, increased weekly by .05. This form of treatment, until recently, received widespread publicity and numerous medical articles concerning the therapeutic results were reported by various clinicians; however, most authorities conclude that the gonococcus filtrate (Corbus-Ferry) has not given any better results than routine treatment alone, in fact, complications were more frequent.

I wish to discuss at this time the important discovery and observations of Long and Bliss concerning the action of sulfanilamide on certain bacteria. They reported their clinical work with sulfanilamide in the treatment of beta-hemolytic streptococcal infections. Its use was also suggested in the treatment of meningococcal and gonococcal infections. They have shown in their experiments that this drug decreases the rate of multiplication of invading organisms in the infected host. When this rate is decreased, there is a decrease in the production of toxic substances which ordinarily overwhelm the infected animal. Due to the inhibition of growth of the bacteria, the phagocytes are able to clear the tissues of the invading micro-organisms. Evidence showed that sulfanilamide did not exert any direct influence or antiseptic effect upon the invading bacteria. Experimental work by Marshall and his associates has shown that this drug is eliminated from the body almost entirely by the kidneys, and is excreted partly as sulfanilamide and partly as acetyl sulfanilamide. They found that the higher the concentration of sulfanilamide in the urine, the greater the inhibitory or sterilizing effect upon the majority of the micro-organisms. They found that fluids should be limited and at the same time forced, so that the daily urine volume will be fairly constant. An output of 1,000 to 2,000 c.c. daily should be adequate. The sterilization of the infected urinary tract depends, therefore, upon the concentration of sulfanilamide in the urine. It has been shown that this drug diffuses rapidly from the blood into the tissues. It is

believed that the component parts of the urinary tract are constantly bathed with urine containing a heavy concentration of sulfanilamide, and this factor is perhaps responsible for its effectiveness in urinary tract infections.

Marshall has shown that the blood concentration of sulfanilamide is easily maintained between 1:5,000 and 1:10,000, and that it is bactericidal against streptococci at a concentration of 1:13,000 to 1:18,000. Interesting observations and research by such investigators as Domagk, Colebrook and Kenny, Long and Bliss, Rosenthal, Marshall, Emmerson, Cutting, Fuller and others, have demonstrated the important therapeutic results of this drug in numerous bacterial diseases.

Schwentker, Gelman and Long, had already demonstrated the effectiveness of this drug in several patients suffering from meningococcus meningitis. The cell count of the spinal fluid fell rapidly and progressively following the initiation of the treatment. Cultures of the spinal fluid of a number of patients were sterile after the first treatment, while in others, several treatments were required. In no case was the organism present after three days of intensive treatment. Due to the close relationship which existed between the gonococcus and the meningococcus, Dees and Colston began to investigate the therapeutic result of this drug in patients affected with gonorrhea, and published their report during May 1937. The patients treated suffered from acute anterior and posterior urethritis, urethral stricture, prostatitis, epididymitis, and infections of the seminal vesicles. No local or other measures were supplemented. The dosage employed averaged 20 grains four times daily for two days; 15 grains four times daily for three days; and 10 grains four times daily from four to eight days. The results obtained were surprising. In thirty-six of the first forty-seven cases reported, the discharge disappeared in less than five days. In five cases in which the gonococci were still present, there was a great diminution in the amount of discharge. In three cases there was no response to the drug; but in no instance did the infection progress.

Following the report of Dees and Colston concerning the surprising effect of sulfanilamide in gonococcal infections, I instituted this form of therapy in the treatment of my cases. At the same time, I continued my usual routine local treatment, having the patient report to my office every day during the first week, and on alternate days thereafter until he is pronounced cured. In this way I have been able more carefully to check the effect of the drug, as well as watch for any complications which might arise. I am convinced that the combined method of treatment is superior to the method in which only the drug is administered. Briefly my usual method of local therapy is as follows:

Written instructions are given to every patient regarding diet, abstinence of alcoholic drinks, sexual excitement, etc.; he is instructed to abstain from all saline laxatives, and to report immediately any unusual sign or symptom such as jaundice, skin eruptions, bluish discoloration of the lips and nails, etc.; potassium permanganate irrigations, 1:5,000 under low pressure are given daily, followed by the urethral instillation of two drachms of 0.5 per cent protargol solution, or a 10 per cent neosilvol solution. At the same time, the patient is instructed as to the use of the urethral syringe and to inject the medication himself at night, just before retiring. He is instructed to void prior to the injection of the medication, which is retained for three minutes. Every patient receives a careful examination, and if a pin-hole meatus or marked phimosis is encountered, appropriate corrective procedures are carried out. If the condition is very acute, and associated with swelling and edema, complete rest is advised. No local treatment is given until the acute symptoms subside. At the same time, rest in bed, local applications of hot wet dressings, and hot sitz baths are advised. Internal medication with sulfanilamide is immediately instituted, and the clinical effect carefully observed. At each visit the urine, which is voided into two glasses, is examined for pus and shreds, particular attention being paid to the appearance of the second glass for a possible posterior involvement. If the latter occurs, treatment is immediately directed to the posterior urethra. As soon as the gonococci disappear, the silver salts are discontinued

and instead, only daily permanganate irrigations are given. When the discharge becomes very scant, astringent solutions are prescribed. Silver nitrate in strengths of 1:10,000 to 1:1,000 is often used in this stage.

My clinical evaluation of this drug is based on a series of 100 office patients who were given the combined treatment, that is, internal medication with sulfanilamide combined with my usual method of office therapy. Of the patients treated, 95 were adults and 5 were children. Of the 95 adults, 85 were men and 10 were women. Of the 5 children treated, 2 were boys and 3 were girls. It was impossible to follow regularly the dosage recommended by Dees and Colston. I have, however, obtained excellent results beginning with 60 grains daily in four divided doses for the first two days, and thereafter 40 grains daily, which is gradually reduced until discontinued entirely. The patient is also advised to take about 20 grains of bicarbonate of soda three times daily. It has been necessary, in some cases, to reduce even this dosage, due to lack of tolerance, and occasionally the patient is unable to tolerate the drug at all. Experience has proven that it is impossible to establish a uniform dosage regardless of the appearance and weight of the patient. At the same time it is important to administer a sufficient amount of the drug, particularly during the first few days, to obtain maximum therapeutic effect. No patient was given protosil intramuscularly, since it has been shown that the internal administration of the drug was sufficient. Of the 85 adult patients treated with the combined method, the clinical results were indeed surprising. A number of my patients showed such rapid improvement that the drug, in numerous instances, was discontinued in three or four days, with no sign of recurrence of the infection. The patient was instructed, however, to continue regularly the office irrigations and urethral instillations, until the final check-up showed the absence of infection.

When the drug is administered alone, without additional therapy, the patient is very apt to discontinue the office visits entirely too soon and become a "carrier." On the other hand, the simple routine of internal medication may cause the patient to supervise his

own dosage, with perhaps disastrous results. In this series, there were 71 cases of acute anterior gonorrheal urethritis, 10 cases of posterior gonorrheal urethritis associated with prostatitis, 2 cases of acute epididymitis, and 2 cases of acute prostatitis. In the acute anterior cases, the disappearance of the discharge varied from one to four days. The acute symptoms, in many instances, cleared up entirely during the first forty-eight hours. In those patients who showed rapid response to the treatment, repeated laboratory tests failed to show any gonococci, and the patients remained clinically well, with the exception of seven patients who developed a posterior involvement. It is rather surprising to note that seven of the acute cases which were diagnosed as anterior infections, subsequently developed posterior complications while under treatment; in fact, one of these patients developed an acute epididymitis. Even though recovery was rapid, the patient was kept under observation for at least three weeks, during which time he was given irrigations and instillations, in addition to regulated dosage of sulfanilamide. In the seven cases that developed posterior involvement, the clinical symptoms were comparatively mild, and eventually subsided under the combined therapy. Average duration of the illness of the seven patients was eight weeks. Dees and Colston in their series of sixty-two cases stated that there was not a single case in which the infection progressed beyond the stage in which it was originally seen, which is contrary to my report. The complications encountered are, in my opinion, due to the fact that the patient either did not follow the prescribed dosage, became lax in his habits, or failed to respond to the drug. The irrigations, although given under low pressure, may have acted as a contributory factor, but this is problematic. Blood concentration determinations of free sulfanilamide were not done. The average blood concentration level following the usual prescribed dosage of the drug has been found by observers to be about 6.2 mg. per cent.

Ten of the patients as stated, when first seen, were diagnosed as posterior gonorrheal urethritis. A number of the patients gave a history of having had previous treatment by other physicians, while a few relied on self-

medication. The results obtained in these cases were almost as successful as those obtained in the acute anterior conditions. The gonococci had disappeared after only a few days treatment, and the symptoms during the course of the disease were comparatively mild. The average duration of the illness was four weeks under the combined therapy. Two patients who were diagnosed as acute gonorrheal prostatitis with elevation of temperature, marked frequency, and pain in prostatic region, responded rapidly to the usual dosage of sulfanilamide, combined with rest and hot rectal irrigations. The acute symptoms had subsided in two to three days, and complete recovery took place within four weeks.

Of the two patients with acute gonorrheal epididymitis, the symptoms rapidly improved. The fever disappeared within thirty-six hours and there was complete relief of pain within forty-eight hours. The swelling had practically disappeared within seven days. Under continuous treatment, both patients made an uneventful recovery within four weeks.

The female patients complained less about the drug than the male patients, and apparently had better tolerance, although the dosage was slightly reduced. Internal medication was combined with local therapy. With the exception of one patient, all showed rapid improvement, with disappearance of the gonococci within four days. The patients were kept under observation from four to five weeks before they were dismissed, the combined treatment being continued in the meantime. The patient who did not respond to the drug, developed a surgical condition of the abdomen and was referred to a gynecologist for operation. No other patients developed any complications.

Although my experience with the drug in children is limited to five patients, the final results were highly successful. Among them were two boys whose ages were six and eight respectively, and three girls whose ages were four, ten, and twelve respectively. Appropriate dosage was given and the drug was well tolerated. In addition to internal therapy, the boys were given urethral irrigations and instillations on alternate days. Additional therapy in the girls consisted of vaginal introduction of theelin suppositories contain-

ing 2000 international units, on alternate days. The infection in these children cleared up rapidly. The duration of the illness lasted about three weeks in the boys, and about four weeks in the girls. Smears were negative after a few days treatment; however, the children were kept under observation, and therapy continued for four to five weeks to prevent recurrence. When one considers our past efforts in obtaining a prompt recovery in juvenile gonorrhea, the addition of this form of therapy is a surprising contrast.

As to the side-effects of the drug, practically every patient complained of a slight headache and dizziness which, in many instances, cleared up as the dosage was decreased. In spite of the fact that many clinicians have called our attention to numerous and serious complications, in my series of cases there were only two cases of skin eruption, three patients with high fever, and two with evidence of marked cyanosis. Four patients complained of very severe headache, and were unable to tolerate the drug at all. They were not included in the series. Following the reactions, the drug was immediately stopped. Etiologic factors concerning these complications are still under dispute. Blood counts should be routinely done if the drug is continued over a longer period; however, in my opinion, it is not essential if the symptoms are of short duration, and the patient shows no evidence of any suspicious reaction.

Summary

Attention is called to the marked prevalence of gonorrhea throughout the United States. Until recently our efforts to control the symptoms and quickly cure the disease have proven difficult. I have described briefly the valuable properties of sulfanilamide, which in my opinion, is the most spectacular chemotherapeutic agent ever introduced since the discovery of Salvarsan by Ehrlich. Its action in the treatment of gonococcal infections is almost specific. In my series of one hundred cases, sulfanilamide has proven to be the most valuable drug at our disposal. The percentage of cures was approximately 85 per cent, the majority of the patients being dismissed as cured within a period of three to four weeks. My report corroborates the reports of other investigators, although the percentage of cures reported has varied from 75 to 90 per cent.

The combined method of treatment, in my opinion, is superior to treatment with sulfanilamide alone, since it compels the patient to visit the physician's office regularly. In this way, the clinical progress of the case can be more carefully checked, and any sign of toxic manifestations more quickly observed. Gonorrheal infections in women and children which have always been difficult to treat, cleared up rapidly under this method of treatment. Toxic reactions which occurred in seven patients subsided rapidly following the withdrawal of the drug. Seven acute anterior cases developed posterior complications soon after beginning the combined treatment. This is contrary to the reports of other observers.

I cannot emphasize too strongly the importance of restricting druggists from dispensing the drug without a physician's prescription. In addition, every prescription should bear the following words: "DO NOT REFILL"

Recently, I have been studying the local effect of the drug in patients with gonococcal urethritis. Urethral instillations with protosil have been carried out in a small series of cases. The results have not been very favorable. A report of this study will soon be published.

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THE MANAGEMENT OF URETERAL CALCULI IN AMBULATORY PATIENTS*

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During the past twenty-five years the employment of major surgery for removal of ureteral calculi has steadily decreased. This has resulted from the rapid improvement of urologic instruments and the development of great skill in cystoscopic manipulations. Squires of the Crowell Clinic reported a series of 606 cases of ureteral calculi; 528 of these, or 83 per cent, were removed trans-urethrally. Other reports by Bumpus, Grant, Dourmashkin, Ballenger and Elder, and others indicate that success by this method ranges from 80 to 95 per cent.

Review of the literature shows that a large percentage of the cystoscopic manipulations have been done in the hospital. During the past thirteen years we have successfully managed a little more than 75 per cent of our cases of ureteral calculi without hospitalization and with practically no interference with work.

The conservative measures employed possibly required a little more time but did not subject the patient to any greater danger of kidney damage than the more serious hospital procedures. Because of the economic factor involved and the inclination of patients to accept immediate urologic aid provided no loss of time is incurred, we thought an outline of our management of ambulatory cases might be of interest.

Selection of Cases

In determining the best method of treating ureterolithiasis a careful urologic study is essential. The general condition of the patient and the severity of infection, if present, must be considered. The size, shape and location of the calculus are shown by an x-ray plate. Intravenous urography shows the extent of obstruction, the condition of the kidney and ureter, and the differential renal function. Should the intravenous urograms be unsatisfactory due to anuria or greatly dimin-

ished kidney function, retrograde pyelography is essential. From a study of these findings a rational decision as to the method of approach can be made. The following types of ureterolithiasis need more than cystoscopic treatment:

1. Calculi, the shortest diameter of which is greater than 1 cm.
2. Firmly impacted calculi.
3. Calculi in greatly dilated portions of the ureter.
4. Those associated with severe infection which cannot be properly drained with a catheter.
5. Cases in which repeated attempts to get a catheter or bougie by the calculus have failed.
6. Complete blockage of a solitary ureter where emergency open drainage is imperative.

All other ureteral calculi are amenable to office manipulation if the patient's general condition is satisfactory, provided his temperament does not render him intolerant of repeated attempts to remove the calculus and of the slight inconvenience of wearing catheters during periods of dilatation.

General Management and Drugs

The management of ureterolithiasis is aimed first at the relief of pain and then at the removal of the cause. Relief of pain is accomplished in two ways: First by administering sufficient morphine, and second by relieving urospasm. The latter may be accomplished by relaxing the ureteral spasm by application of heat, by giving atropine or pancreatic tissue extract and last, but not surest, by passing a ureteral catheter beyond the obstruction for drainage.

The patient who is seized with severe renal colic at home is told to immerse his body in a hot bath and take by mouth morphine sulfate grain $\frac{1}{4}$ and atropine sulfate grain $\frac{1}{75}$. The heat frequently relieves the pain before the drugs take effect. If the patient can be seen promptly after the onset of an attack of colic, morphine sulfate is given intravenously by slow injection until pain is relieved. The advantages of morphine intravenously are the almost instant effect and the perfect control of dosage. Hypersensitivity to the drug is immediately recognized and the injection can be stopped. By this method of administering

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Fig. 1, Case 1—Two ureteral catheters obstructed by calculus of left ureter. Large left kidney outline—infected hydronephrosis.



Fig. 2, Case 1—Shows two catheters passed by calculus to kidney pelvis and left for drainage and dilatation.



Fig. 3, Case 1—Shows essentially normal pyelograms three months after left ureteral calculus was passed following fourth office dilatation of left ureter.

morphine the dose can be fractionally given, stopping the injection if pain ceases and resuming it if the pain recurs. At the same time atropine sulfate grain 1/75 is given and repeated as often as indicated. If colic recurs as soon as the effect of the drug is gone, urostasis has not been relieved and a catheter is passed beyond the obstruction and left from twelve to twenty-four hours.

Method of Approach

We have relied upon catheter and bougie dilatation and atropine in our efforts to cause ureteral calculi to pass. When the calculus is in the terminal few inches of the ureter but will not pass, we have employed the spiral stone dislodger.

Technic

The usual preoperative preparation is given patients for cystoscopic manipulation, except that morphine is given intravenously if the patient is in pain or if haste is essential. The bladder and urethra are anesthetized by instilling two ounces of 4 per cent larocaine solution and allowing fifteen minutes for it to take effect.

If the ureteral orifice will not admit two No. 6 catheters, meatotomy is performed with the cystoscopic scissors. We prefer scissors to the high frequency current for this purpose because edema is less following cutting and cicatricial deformity upon healing has appeared less. Bleeding has not been a troublesome factor; however, coagulation equipment is always at hand to seal vessels if required. Ureteral meatotomy is done with

the high frequency current if the calculus is engaged in the orifice in such a way that introduction of a bougie might push it back in the ureter.

If the catheter does not pass the calculus after gentle manipulation, 4 per cent larocaine solution is injected intermittently for a few minutes through the catheter at the point of obstruction. This usually facilitates getting a bougie or catheter by. As many catheters as can be passed without too much trauma are introduced to the kidney pelvis and left until the following day. The patient is allowed to go home with a test tube attached to take care of drainage. He returns the following morning and the catheters are removed. Dilatation is repeated at intervals of one week until the stone is passed or has reached the terminal portion of the ureter where the spiral dislodger can be employed for extraction which is done immediately after the catheters are removed. Many of the smaller calculi pass following a single dilatation. As a rule the number of dilatations required is in proportion to the size of the calculus. We never hesitate to repeat the procedure as often as necessary so long as the kidney is not being damaged by back pressure or infection. In one case seven dilatations were done before the calculus passed, and the kidney escaped without injury as was proved by a subsequent pyelogram and functional test. Care in avoidance of trauma by catheter manipulation must be observed, especially when dealing with a spiculated calculus. Grant reports four cases of extravasation of medium on post manipu-



Fig. 4, Case 2—Shows calculus in right ureter opposite lower 3rd sacrum and a slightly smaller calculus in inferior calyx of right kidney.



Fig. 5, Case 2—Right pyelogram and ureterogram showing slight dilatation of pelvis and dilatation of ureter just above calculus. Both calculi obscured in opaque medium.



Fig. 6, Case 2—Flat plate after both calculi had been removed by ureteral dilatation and extraction with spiral stone dislodger.

lation urography. We have seen one case of extravasation of urine and perinephric abscess in a clinic patient as result of too energetic catheter manipulation. No complications have occurred in our private cases; however, these unfortunate incidents are mentioned to emphasize the importance of caution and skill in intra-ureteral manipulations.

The greatest resistance to dilatation and therefore to the passage of a calculus is encountered in the intramural portion of the ureter. However, because of the technical difficulty of removing a calculus from deep in the pelvis by open operation, painstaking effort should be made to bring calculi from this portion of the ureter into the bladder. Nothing facilitates this so much as adequate dilatation. In many instances we have dilated the ureter to 18 French. The spiral dislodger is used for extracting calculi because it is easy to introduce and the spirals can be opened or closed to facilitate engaging a large or small calculus. We have exerted continuous traction on the spiral for as much as fifteen minutes while observing a large calculus gradually come into view and drop into the bladder. Another advantage of the spiral is that if the calculus cannot be extracted it can always be released from the instrument. This factor makes it safe for office use.

With patients who are cooperative all of the manipulations described here can be done in the office satisfactorily without causing appreciable pain, provided effective doses of

morphine and atropine are given and adequate time for the effect of the larocaine is allowed.

Prophylaxis Against Recurrence

When a calculus has been removed we never consider our work finished. Efforts thus far have been directed at what might be considered relief of a symptom. The cause of lithiasis has not been removed. Review of the literature indicates that calculi recur in from 6 to 24 per cent of cases, being much more frequent when infection is present. We make a practice of examining all patients every six months after a calculus has been passed or removed. These follow-up examinations include a roentgenogram.

While the formation of calculi is not thoroughly understood we make every effort to correct factors which are known to be contributory. Care is taken to remove all fragments of calculi. Free drainage is insured by correcting obstructive lesions such as the small ureteral orifice, stricture and kink of the ureter and nephroptosis. Infections both of the urinary tract and remote foci are eradicated so far as possible. Greater fluid intake is insisted upon to combat supersaturation which is known to be a factor in crystallization of salts.

The importance of diet and vitamin A deficiency in the etiology of urinary calculi is not definitely determined at present. However, the work of Keyser, Higgins and others is very impressive and deserves continued trial and consideration.



Fig. 7, Case 3—Flat plate showing large calculus in terminal left ureter.



Fig. 8, Case 3—Shows two ureteral catheters passed by the calculus for dilatation. Calculus extracted with spiral dislodger following fourth dilatation after ureteral meatotomy had been done.

All calculi are analyzed qualitatively to determine the principal constituent salts. This can be done in the office by the technic described by Keyser or Randall. A well balanced diet as free as possible of the things which give a residue of the salts found is prescribed.

The reaction of the urine is always reversed. If the calculus is one which forms in acid urine, such as uric acid, calcium oxalate or cystine, a diet is prescribed which gives an alkaline residue. If the calculus is one which forms in alkaline urine, such as calcium, ammonium or magnesium phosphate, a diet is prescribed which gives an acid residue and is rich in vitamin A.

We realize that it is difficult to evaluate results obtained by these prophylactic measures; however, we think our efforts along this line should be continued. It is possible that advances in physiologic chemistry and other sciences might aid us tremendously in the solution of this important problem.

Analysis of Cases

| | Number | Percentage |
|--------------------------------------------|--------|------------|
| Patients | 146 | .. |
| Passed spontaneously | 18 | 12.3 |
| Passed after office manipulation | 109 | 76. |
| Open operations | 6 | 4.1 |

| | | |
|---------------------------------------------|-----|------|
| Hospital manipulations | 10 | 15. |
| Advised operation, refused | 3 | 2.6 |
| <i>Manipulations Employed</i> | | |
| Cases treated in office | 109 | .. |
| Catheter dilatation | 105 | 96.3 |
| Spiral dislodger only | 4 | 3.7 |
| Spiral after dilatation | 15 | 13.7 |
| Catheter dilatation only | 90 | 82.6 |
| Ureteral meatotomy, scissors | 5 | 4.7 |
| Meatotomy, high frequency current | 1 | 1. |

Number of Catheter and Bougie Dilatations Required

| | Number | Percentage |
|--------------------------------------|--------|------------|
| Number of patients | 90 | ... |
| Number dilated one time | 39 | 43.3 |
| Number dilated two times | 23 | 25.6 |
| Number dilated three times | 16 | 17.8 |
| Number dilated four times | 7 | 7.8 |
| Number dilated five times | 3 | 3.3 |
| Number dilated six times | 1 | 1.1 |
| Number dilated seven times | 1 | 1.1 |

Case Reports

Case 1—J. W., aged 33, was first seen March 1, 1935, with severe left renal colic. Temperature 101. Large tender mass palpable in left flank, apparently a large hydronephrosis. Urologic study done in the hospital. Flat x-ray plate (Fig. 1) showed large left kidney shadow and a small dense shadow in line with left ureter opposite third lumbar vertebra. Two catheters obstructed at level of the calculus. By manipulation, two No. 6 catheters were passed to kidney pelvis (Fig. 2), and left 72 hours for drainage of the large infected hydronephrosis. Acute febrile symptoms subsided and patient left the hospital. After two office dilatations of the left ureter a flat calculus 2.5 by 3.3 mm. was



Fig. 9, Case 4—Flat plate showing a large elongated calculus in right ureter opposite the sacrum and a smaller one in terminal right ureter. Both passed after fourth dilatation.



Fig. 10, Case 5—Flat plate showing calculus of low density in right ureter opposite 3rd lumbar vertebra and a small calculus in terminal left ureter. Calculus in left ureter passed following first dilatation.

passed. Pyelogram (Fig. 3) three months later showed essentially a normal left kidney pelvis and no evidence of a calculus.

Case 2—A. S., aged 28 years, was seen in the office May 16, 1935, suffering severe right renal colic. X-ray plate (Fig. 4) showed a small dense shadow opposite fourth sacral segment in line of right ureter and another shadow slightly smaller apparently in lower calyx of right kidney. No. 6 catheter met obstruction at level of lower shadow but passed after manipulation. Retrograde pyelogram (Fig. 5) shows dilated portion of ureter just above ureteral calculus and the shadow in renal region obscured by the medium. At the seventh catheter dilatation a calculus the size of a black-eyed pea was pulled into the bladder with a spiral dislodger and removed with Young's rongeur forceps. Again on May 29, 1937, two years later patient was again seized with right renal colic. Catheter met obstruction near the kidney pelvis. Catheters were left in over night for dilatation. Four days later colic recurred and catheter met obstruction 6 cm. from the orifice. Catheter dilatation was repeated, twelve hours. Two days later the calculus 2 by 2 mm. was extracted with the spiral and removed with the rongeur forceps. One month later roentgenogram (Fig. 6) showed no shadows suggestive of calculi and normal renal outlines. No subsequent attacks to date.

Case 3—Mrs. L., aged 34, was referred in December, 1937, after a shadow suggestive of calculus had been discovered in the course of a general examination in region of terminal left ureter. She had previously suf-



Fig. 11, Case 5—Showing two ureteral catheters passed by calculus in right ureter for dilation. Calculus passed following fourth dilatation.

fered several indefinite attacks of left renal colic. X-ray (Fig. 7) shadow 3 by 5 mm. in course of terminal left ureter. Left orifice was small and meatotomy was

done. After anesthetizing point of obstruction with larocaine, two No. 6 catheters were passed (Fig. 8). Four dilatations with catheters to 18 French failed to cause the calculus to pass. Attempt at extraction after the fourth dilatation failed. After the fifth dilatation the calculus was engaged with the spiral and firm traction was exerted for fifteen minutes while the intramural portion of the ureter could be seen dilating until the stone was visible and finally brought into the bladder.

Case 4—B. S., aged 51 years, had diagnostic study done in New York. He brought the x-ray films with him showing two stone shadows in the course of the right ureter (Fig. 9). The larger one, 2 by 0.5 cm., at the level of the middle of the sacrum and the smaller one at the level of the coccyx. Four catheter dilatations were done; the last one to 18 French, in office. Thirty-six hours after the last dilatation both calculi were passed while voiding. Urine negative except for occasional pus cell on repeated tests and roentgenogram negative for calculi two years later.

Case 5—T. W., aged 39, came in complaining of left renal colic. He had suffered several similar attacks on the right side but none before this on the left. He had undergone right pelviolithotomy nine months previously. X-ray (Fig. 10) showed shadow 5 by 3 mm. opposite transverse process of third lumbar vertebra in course of left ureter. The calculus from left ureter passed after first catheter dilatation. The calculus from right passed after fourth dilatation (Fig. 11).

Summary

From 80 to 95 per cent of ureteral calculi can be successfully managed by cystoscopic manipulation.

Seventy-six per cent of our private ureterolithiasis cases have been managed by office manipulation.

Morphine sulfate intravenously and larocaine locally are important aids in transurethral manipulations.

The kidney and ureter are not injured by repeated manipulations with catheters and the spiral stone dislodger.

Attempt to prevent recurrence of calculi should be made by removing contributory factors such as obstruction and infection. Reaction of the urine should be reversed in an effort to influence the chemistry of stone formation.

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EDWARD H. RYNEARSON, Rochester, Minn. (*Journal A. M. A.*, Sept. 3, 1938), discusses the treatment of Addison's disease by presenting hypothetical case histories, which include the patient in a crisis of Addison's disease, the patient with Addison's disease who requires an operation, the patient with chronic Addison's disease and the patient suspected of having Addison's disease. Progress in the treatment of Addison's disease is being reported and it is believed that the best available treatment should consist in (1) the restriction of potassium in the diet, (2) the addition of sodium salts to the diet, (3) the use of an active extract of the adrenal cortex when it is needed, (4) the training of the physician and the patient in the details of treatment of the chronic state of the disease and (5) the early recognition of acute remissions and their energetic treatment.

HERNIA OF THE URINARY BLADDER*

Report of Cases

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Hernia of the urinary bladder occurs chiefly after the fortieth year of life. It is more frequent in males, and in both sexes shows a noticeable predilection for the right side and may accompany direct, indirect or oblique inguinal hernia, being probably most often of the direct type. About 1 per cent of hernias are complicated with cystocele.

There may be three varieties of hernia of the urinary bladder according to the relation which the bladder protrusion bears to the peritoneum.

1. Intraperitoneal, in which the herniated process is a complete sac.
2. Paraperitoneal, in which the herniated bladder process is covered by peritoneum on one surface.
3. Extraperitoneal, in which the herniated portion of the bladder is neither engaged in nor contiguous to the hernial sac.

In size they vary from a hazel nut to the size of a fetal head and may not exist alone. They may be associated with a hernia of other organs on the same side or opposite side of the body.

The sac may be as thin as tissue paper, or thick, congested and infiltrated, adherent to the spermatic cord or capped by a thick mass of fatty tissue. Its cavity communicates with that of the non-herniated part of the bladder by means of a wide or narrow channel.

Before operation the following symptoms are suggestive of vesical hernia: dysuria, two-stage urination, frequent voiding, infrequent urination with retention for several hours and complaint of an unusual amount of tenderness on pressure over the hernia sac.

A hernial swelling, pressure upon which causes a desire to urinate and which increases in volume with urinary retention and markedly diminishes in size with micturition is most suggestive. The persistence of a small doughy mass representing the extruded part of the bladder after easy reduction of most of the contents is a valuable sign.

During the course of a hernia operation it is well to have in mind the following suggestive signs:

1. An unusual amount of fat in the neighborhood of a hernial swelling. This is a danger signal.
2. Difficulty in finding and isolating the true hernial sac from the mass.
3. Large sized external hernial opening and the fact that hernias of the bladder are usually nearer the median line than true hernial sacs.

Practically all inguinal hernias of the bladder are associated with protrusions of intestines or omentum. This makes injury to the bladder, if it is incarcerated, almost sure to occur in operating for the relief of acute strangulation.

As a rule, bladder hernias are irreducible. The bladder may be so thin that the slightest attempt at reduction will rupture its wall with the escape of urine. The vesical wall may be tied with a hernial sac or be ligated and cut off, and later on the passage of blood-stained urine, or urine escaping from the hernial opening, or sepsis and peritonitis from extravasation of urine may call the surgeon's attention to the bladder injury. Where damage has been done to the bladder without proper repair the mortality has run from 30 to 40 per cent. Immediate recognition of the injury with proper repair does not result in serious harm.

Treatment. Isolate the bladder hernia without injury if possible, and reduce it into the abdominal cavity. When the herniated part of the bladder is injured, repair or resect, suture the vesical wall and return to the abdominal cavity. Drainage to the bladder wound, leaving the wound open at its lower angle, and the use of a permanent catheter in the urethra from one to fourteen days are often employed safeguards.

If the herniated bladder wall has to be repaired and its membrane is thick enough and can be freed from fat and adhesions, closure may be made by using two or three rows of No. 1 chromic gut. The first row may be interrupted sutures, five or six to the inch and not including the vesical mucosa, and the second or third rows may be continuous sutures of the same material.

However, the above usual closure may be impossible on account of the bladder wall being so thin and flabby and inseparable from fatty tissue and adhesions that the operator

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will have to rely upon a continuous purse-string suture of No. 1 chromic gut applied from within the thin wall and reenforced with another purse-string suture. The pre-vesical fat is brought over the bladder suture line in such a fashion as to support it.

Report of Cases

Case 1—The patient was a man, aged 53, who had had a right inguinal hernia for 5 years. For a two year period preceding his operation he had left off his truss at irregular intervals and the hernia had increased in size. He gave a history of infrequent urination and stated that he could go for eight or ten hours without voiding. There was a rather definite history of two-stage urination with some pain in the hernial region during micturition. Shortly before his operation he discovered that pressure over the hernia aided in urination. He had lost 30 pounds in weight and complained of an increasing weak and tired feeling, with more or less constant pain in the region of his hernia.

Examination in the standing position showed a right direct inguinal hernia with an external opening about the size of a dollar and filled with a doughy mass which was not entirely reduced when the patient was placed on his back. He complained of much tenderness on attempted reduction of this mass. The urine was turbid, alkaline in reaction, and contained quantities of calcium oxalate crystals.

At operation the usual incision for the radical cure of inguinal hernia was made on the right side. The aponeurosis of the external oblique muscle was divided and the hernial sac exposed. A large amount of fat was found on the inner side of the sac, and while freeing this mass of fat and adhesions an elongated, thin-walled, diverticulum-like cystocele was uncovered. The cystocele was about 3 inches in length and 1 inch in diameter and its long axis pointed toward the bladder. It was very apparent that any manipulation might rupture its thin wall. Several attempted reductions failed. The cystocele was ruptured during an attempt to free it from fat and adhesions and turbid urine flowed freely from the wounded bladder. The herniated part of the vesical wall was resected. At the point of origin of the cystocele it was so thin and friable and attached so firmly to the fatty tissue and adhesions that the closure of the bladder wound was made with a purse-string suture of No. 1 chromic gut, placed within the mouth of the vesical opening and reenforced by another purse-string of the same material. The prevesical fat was brought over the bladder sutures to bolster them.

The abdominal hernial sac was treated in the usual way and the remainder of the operation followed the lines of the Halsted operation for the radical cure of inguinal hernia. The wound was closed without drainage.

Two hours after the operation a No. 16 French, soft rubber catheter was inserted into the bladder through the urethra. Water was forced by mouth and the bladder was irrigated daily with a warm sterile solution of boric acid, followed by an instillation of 3 drachms of a 2 per cent solution of mercurochrome. Every three

days the catheter was removed, cleaned, boiled and reinserted into the bladder.

Continuous catheter drainage was carried out for eleven days and during this entire time the patient's temperature did not rise above 99.4 degrees. The daily output of urine increased from 16 to 52 ounces. Two days after the removal of the catheter a mild cystitis developed which lasted only a few hours.

The wound healed per primam and recovery was uneventful. Twenty-five days after the operation his urine was clear, acid in reaction and contained nothing abnormal.

Case 2—A man, aged 63, gave a history of right inguinal hernia of ten years duration. He had worn a truss for the past six years. Careful manipulation failed to reduce a large globular shaped mass and there was left after attempted reduction a portion that was soft and doughy to the touch. Two sacs were found at operation. The lateral sac contained omentum and the medial sac contained fatty tissue which was densely adherent to the lateral and posterior walls of the sac. While stripping this tissue from the hernial sac a small finger-like diverticulum of the bladder was ruptured. The bladder opening was closed by a No. 1 chromic gut continuous purse-string suture which did not penetrate the bladder mucosa. The diverticulum was amputated below this suture and another purse-string suture of like material was used to close the fatty tissue over the first suture and to strengthen the closure of the bladder wound.

The typical Bassini operation was used for the hernial repair.

The postoperative treatment was essentially the same as that employed in Case 1. However, two days after his catheter was removed he developed a left sided acute orchitis with great pain and swelling for a few days.

Case 3—A man, aged 68, very active for his years with a history of right inguinal hernia of three years' duration, had worn a truss for two years.

His sac contained omentum and prevesical fat and while stripping this adherent fat from the hernial sac I tore the thin wall of a small bladder diverticulum. This pouch was one-half inch in diameter. Two purse-string sutures of No. 1 chromic gut were used to close this defect.

The typical Bassini operation was used to repair his hernia. His bladder was not drained by a permanent catheter. He was catheterized 8 and 16 hours after his operation and made an uneventful recovery.

DISCUSSION ON SYMPOSIUM ON UROLOGY

Dr. Albert J. Kelley (Savannah): I think this has been a most interesting series of papers on various urologic conditions.

In connection with Dr. Jordan's paper on Urologic Conditions in Childhood, I was glad to see him stress the importance of proper urologic treatment and the importance of follow-up work in these conditions. Wharton, Gray and Guild published a paper last November in which they followed thirty cases in girls and women who had had pyelitis in childhood; 17 of these 30 had urologic abnormalities several years later. Some had symptoms and some had not.

I want to agree with Dr. Jordan in condemning the indiscriminate treatment of childhood urologic conditions without accurate diagnosis, and I wish to compliment him on the excellent series of cases he showed.

Dr. Brown's paper on the Conservative Treatment of Pyelonephritis was very good. He has effectively reviewed the newer methods of treatment, and he has also stressed the old. I wish particularly to call to your attention his closing sentence in which he reminded you of adequate drainage first, last and all the time.

Dr. Sinkoe's paper on combined Sulfanilamide Therapy and Local Therapy in the treatment of gonococcal infections was very excellent. We remember a year or so ago when sulfanilamide first began to become prominent, every time we had a patient who showed any clinical evidence of gonorrhea, immediately he was dosed with sulfanilamide more or less indiscriminately. That undoubtedly led to a lot of self-medication, and nobody knows how much harm might have been done. I was glad to hear Dr. Sinkoe bring out the fact that he follows these cases with sulfanilamide, also with local therapy, and keeps track of them, thereby gaining the benefit of the new treatment without giving up our older methods.

Dr. Fowler's paper on the management of ureteral calculi was to me most interesting, and I was glad to see the fact stressed that these patients can be treated in the office. I think that lots of these patients are probably scared by the fact that when a diagnosis of kidney stone is made it means long periods of hospitalization, tremendously painful operations, and they go without treatment rather than take that.

I would like to have Dr. Fowler's opinion on the use of avertine in these cases, and to know if he has done any of them. Jarman and Scott published a paper last summer in which they described the use of catheters left in place for 48 hours, then injecting into the ureter above the stone a 2 per cent solution of avertine; then the catheter was withdrawn and the stone was passed spontaneously. They reported 25 out of 27 cases successfully treated by this method.

I also want to remind you of what Dr. Fowler said about following up these cases. Getting rid of the ureteral calculus is not sufficient; we must try to remove the cause as far as possible and prevent recurrence.

Dr. Hunnicutt's paper on Hernia of the Urinary Bladder was interesting. He calls attention to the very dangerous complication of hernias. He also showed us that perforation of the bladder, while it was a serious thing, if we keep our heads, can be successfully managed.

Dr. W. F. Reavis (Waycross): I think it is something desirable to do, to bring together a group of men who are interested in the welfare of the patient. As one of the essayists in a round table discussion said today, these papers were not intended entirely or written only for the urologist; they were intended to convey to the man doing general work the proper method of handling these complicated urologic conditions.

Dr. Jordan has brought out so ably the management of the diseases in children that his paper needs very little comment. I do think that the careful handling of these children, and especially instrumenting infants and children requires an exceeding amount of

skill to keep from doing damage, is an important point.

There is one caution that I want to give the men who are not familiar with intravenous pyelograms. I don't think there is anything that is as misleading as an intravenous pyelogram. I don't think we have any diagnostic methods as valuable as intravenous pyelography, provided it is followed up with other methods of examination. You can be misled if you depend entirely on that.

In regard to the treatment of pyelonephritis, of course that depends entirely on whether we are treating acute or chronic conditions. Dr. Brown has brought this subject to you in such a fashion that it needs very little comment. I do find in especially the acute conditions that if we will use indwelling ureteral catheters large enough, with irrigation, we will save a considerable number of operations in these patients that would require operation if that were not done.

In the cases of old chronic stasis, chronic backache over a period of years without definite, acute symptoms, without hyperplexia, without the acute pyuria, the occasional dilatation and pelvic lavage will do wonders to clear them up.

It has not been long since all of these types of cases were diagnosed and treated as nephritis. They were put on a rigid restricted diet, the patient's general welfare was pulled down to where he had very little bodily resistance, he was undernourished, a lot of them developed other bodily complications such as pellagra and other diseases of that type due to deficient diet. It is just as important that these patients should be properly fed, their bodily resistance built up, as that the other conditions be treated.

Sulfanilamide is something that we thought we had to relieve a great need in the treatment of a disease that has been so unsatisfactory to every man who has undertaken it. I think that sulfanilamide, if it is going to be given, will give just as good results by itself as with the combination treatment. I find in these cases that if the sulfanilamide is going to benefit them, it is going to benefit them immediately.

We also find in our work that if the urine is not rendered highly alkaline we get no benefit whatsoever, and I think that the manifestations of toxic poisoning from sulfanilamide should be observed and the drug immediately discontinued when any of them develop. I think by doing that we do not damage the patient.

Regarding Dr. Fowler's most excellent paper, every man in the state sees these cases first, as a rule, as a general man. I think the progress that has been made in this condition over a period of years has been wonderful. Nature will relieve a lot of these conditions, but where they persist, naturally the damage will be done to the ureters and to the pelvis of the kidney that if not immediately relieved will be irreparable and he will be a sick man always.

The Doctor has so ably shown you that this can be done in the office. We do a similar treatment in our office without the use of opiates, without the instillation of the local analgesics in the bladder. It is very little trouble after the first cystoscopy on the average person, they don't dread it so badly because they find it is not such a painful ordeal to go through, and we are

able to handle these cases very well. We do not use any type of instruments to aid in extracting the calculi from the ureters except the catheters and bougie. I have practically all of them in my office, as most of you have. I have been able to engage stones in different type metal instruments, and they were very hard to relieve. The type of instrument that Dr. Fowler spoke of, the spiral type of instrument, is an excellent one, but occasionally you will get it fastened to a stone and you can hardly back it off. Of course it is a screw-type instrument; you screw this around and expect to get the stone in the meshes of this spiral, which is rather hard to do because the end of the instrument is rather blunt. We find that the introduction and the dilatation of the ureter up to a large sound caliber, as Dr. Fowler so ably described, and also the introduction of smaller catheters and bougies, leaving them in place, as he so well described, gets results.

Someone asked about avertine. We have used it quite a bit. We don't find in our series of cases in which we have used it that it was any better than the ordinary use of catheters with the instillation of some dye following.

Dr. J. Righton Robertson (Augusta): As Dr. Fowler has pointed out, the percentage of cases of ureteral calculi treated by instrumental manipulation has greatly increased during the past 15 years, due largely to better instruments devised for this purpose and better trained specialists in this line of work.

Three out of four or 75 per cent of the cases can be successfully treated by this means, and as we continue with this work, we have every reason to believe that we will improve on what we have done. Thompson of the Mayo Clinic in a recent report, states that fifty-five patients were subjected to sixty-five attempts, and in fifty-four cases the stone was removed. Not all of us can report such success, but Thompson shows what can be done.

Stones are found in men about twice as often as in women. It is the opinion of most urologists that stones are formed in the kidney, and are found secondarily in the ureter. Randall has contributed largely to this idea. Hunner believes that they are formed in the ureter where the urine is slowed up and stagnated by stricture.

Stones are found in the process of migration from the renal pelvis. They may become fixed or impacted at normal points of constriction. They are sometimes found in diverticula but this does not occur very often, and stones that have a roughened surface may hang anywhere in the course of the ureter. A large majority of stones are found in the pelvic and intramural portions of the ureter.

Most of the calculi being composed of uric acid and urates, do not cast a shadow, and for this reason are often overlooked, particularly when they lie in front of the bony pelvis. Often where there is strong evidence of a stone being present in the ureter, it is necessary to inject an opaque material above and below the point of obstruction. At the Crowell Clinic in Charlotte, they are frequently able to demonstrate the presence of stones that do not cast a shadow, by injecting air at the point of obstruction.

In attempting to remove ureteral stones, we employ a number of instruments of varying types. The one

to be used, is selected according to the location, shape and size of the stone. We do not hesitate to attack a stone in any part of the ureter, from the pelvis down to the intramural portion of the tube.

The use of the small x-ray catheter is perhaps the safest procedure, but if it is rather a slow and tedious process, and often the patient will not cooperate (particularly the male) when he has to be cystoscoped every few days, and you can hardly blame him. After we have determined the presence of a stone in the ureter, the cystoscopic is carried out under morphine and atropine, with Ryall's solution of cocaine locally.

The next step in which we attempt to remove the stone is done under a low spinal or caudal anesthesia, or under an intravenous injection or pentothal-sodium, a very safe and satisfactory anesthetic. A small catheter or bougie is introduced, and if this passes the stone, we then introduce the Howard spiral extractor over a filiform. If this is not successful, it is removed and the Council extractor is introduced. This is a basket arrangement on the end of which is attached a filiform. In opening the wires by means of a handle at the end, the instrument is rotated to the right, the stone frequently caught within the wire meshes. Once the stone is caught it cannot be disengaged. It is not always advisable or safe to attempt to deliver it forcibly. When it cannot be removed with ease, we remove the handle of the instrument and leave it in the ureter for 24 hours or longer. It usually comes out without much difficulty the next day. The stone is completely removed and is not left in the bladder, as in other methods mentioned, and your patient is as happy when he is shown the basket containing the stone, as a woman is who has recently given birth to a baby.

Dr. Wallace L. Bazemore (Macon): Dr. Jordan calls our attention again to the importance of complete urologic studies in children. We should see and hear more about it. The possibilities that he has presented are not yet appreciated by the profession. I should like to stress the significance of "a few" pus cells in the urine of these children as definitely pathologic. It is too often accepted as a normal finding. Likewise I insist that the average so-called urinary antiseptic is prescribed for children in doses far smaller than those they will tolerate. When larger doses are prescribed, the results are proportionately better. We should always be aware of the vast amount of information that an excretion urogram may reveal.

Dr. Brown reminds us that medical literature abounds with discussions on the various methods used for the treatment of chronic pyelonephritis. The prevalence of this condition reflects either that our methods of treating acute urinary infections are inadequate, or that we have been neglectful of those remaining bacteria and pus cells that do not present subjective symptoms, yet surely produce chronic renal destruction. The essayist has enumerated the many accessory factors that may be responsible for the existing picture.

Dr. Sinkoe's paper abounds in good cheer, but he warns us that sulfanilamide is not a specific for gonococcus infections. I am convinced that only a small percentage of cases are cured by the use of this drug alone. It may present a very false sense of security.

It is rather difficult for anyone to discuss the management of ureteral calculi in general. The kidney above a ureter stone may be very temperamental. I have on more than one occasion converted a well behaving kidney into a very rebellious organ—even requiring nephrectomy to save the patient's life. A very tragic way of terminating a renal colic! Yet these very stones so frequently produce chronic renal infection if allowed to remain. When obstruction exists, infection and destruction is inevitable. We, too, employ multiple catheters rather than ureteral gadgets designed for the immediate extractions of the stone. I congratulate Drs. Fowler and Champion on the excellent results they have obtained in the treatment of their ambulatory patients. Their results bespeak not only judgment but gentleness. Both are requisites to the intelligent handling of these patients.

Dr. Rudolph Bell (Thomasville): This symposium on urology is well worth discussion. I want to stress a point in the paper of Dr. Fowler that after the stone has been delivered it is best to follow up that patient and know the ureters are well dilated in order to give the maximum result of the operation.

Dr. Jordan in his paper on urologic conditions in children did not place sufficient emphasis on circumcising baby boys. This was intimated by Dr. Stephen Brown who says a free urinary drainage is imperative. Dr. Reavis is right when he says that too many cases are diagnosed as nephritis without a complete urologic investigation. Nephritis, or the finding of albumen in the urine is often due to an improper urinary drainage.

Within recent months I have had several children who were referred to me because of nephritis. On urologic investigation I found the ureters dilated and a hydronephrosis, all of which were due to a phimosis producing a small urethral meatus. The strain on micturition produced a back pressure on the kidneys and ultimately the nephritis. A circumcision, meatotomy and urethral dilatation opened the lower urinary tract and allowed free drainage. Following the free urinary drainage the albumen which was so prevalent in the urine of the individuals at my first examination, promptly disappeared.

Dr. Harold McDonald (Atlanta): Each of these papers has been well presented and has covered the subject admirably. There is one thing in regard to the combination of sulfanilamide with local treatment in treating gonorrhea that I would like to bring out. More than 25 years ago Dr. Ballenger began sealing solutions in the anterior urethra in early cases of gonorrhea; that is, in patients in whom the discharge had been present only 24 or 36 hours at the most. The advent of sulfanilamide has increased the percentage of cures in these cases from 10 to 15 per cent to 95 per cent using only four treatments on four successive days. We are using at this time freshly made 5 per cent argyrol. We have the patient void; he reclines, and not more than 25 minims of the argyrol is injected into the urethra. The meatus is wiped clean, the penis is held with two test tube clamps placed one on top of the other, and U.S.P. collodion is wiped over the

meatus, using a camel's hair brush. This collodion dries in a few minutes and the argyrol is retained by the patient for four hours. In addition to this he is given 80 grains of sulfanilamide daily for the first two days. The dose is then reduced to 60 grains for the next two days; after that he takes 40 grains a day for the next week or 10 days. We tell each of these patients that the sulfanilamide is likely to upset him and cause him to feel bad, but to go ahead and take it because we have become so confident that the patient who comes in within 24 to 36 hours after the beginning of discharge (and in a good number in 48 hours we receive the same results) can be cured quickly, and we insist on him taking the drug. So far only two patients have been unable to do so.

By using this combination of sulfanilamide with argyrol sealed in the urethra, we get results with these early cases that are almost unbelievable. They get only four treatments. They report back at the end of the fourth treatment, and by this time the amount of sulfanilamide is reduced to 40 grains a day. This is continued for approximately a week longer. They report back in two or three day intervals, at which time the urine is examined and is usually negative. Nothing else is done. In over 100 cases we have had 95 per cent of these patients cured by this method and dismissed at the end of ten days or two weeks. There have been no recurrences in patients properly sealed and who took the sulfanilamide in proper dosage.

We have tried to explain the remarkable difference in the use of sulfanilamide with the sealing method and why we didn't get some of these same good results, or almost as good results, with the sealing alone. The only way we can explain it is that the sulfanilamide, which has been shown to be powerful in its action against the gonococcus, attacks these organisms which are in the tissues and which are beginning to invade the mucosa, and destroys them. The solution that is injected in and retained in the urethra for four hours each day destroys the organisms lying in the dead space in the mucosa and on the top of the mucosa. We feel that the combination of sulfanilamide with the mild argyrol used in this way is the best treatment for very early cases of gonorrhea.

Dr. Willis P. Jordan (Columbus): One paragraph on the second page of my paper that I thought read very smoothly but it went over Dr. Rudolph Bell's head apparently. I said that uro-surgical treatment extends from circumcision through dilatation to a nephrectomy.

One other thing I would like to say, that in all of these cases, regardless of what you are doing, whether you are treating children or adults, whether you are treating pyelonephrosis or nephritis or whether you are using ureteral catheters, you must be careful. You can use the solution that Fowler suggests, you can use evipal, or you can do like Reavis and use nothing at all, but you have to do it without producing pain or the patient won't come back.

Dr. Major F. Fowler (Atlanta): In answering Dr. Kelley's question concerning the use of avertin, we have used this drug in several cases with indefinite results. Four or five cubic centimeters of a 4 per cent solution

of avertin was injected through a ureteral catheter above the obstructing calculus. The catheter was then plugged, retaining the solution within the kidney pelvis for 15 minutes. The catheter was then withdrawn and the avertin solution allowed to escape around the calculus. Two of the patients had severe attacks of renal colic a few hours after the avertin was used. In both instances the calculus had descended to a lower level in the ureter when the colic developed. From our experience, we are unable to say whether avertin facilitates the passing of ureteral calculi.

Dr. Reavis has had more experience with intra-urethral manipulations without the use of some local analgesic agent than we have. We believe that employing some pain relieving agent at least has some psychologic effect and insures the patient's cooperation if future manipulations are required. In our hands larocaine has proven superior to other analgesic agents employed topically.

I want to compliment Dr. Robertson on his very excellent slides. I have enjoyed the presentation of his technic in managing ureteral calculi. We employ some of the stone extractors familiar to most of you, but because of the occasional difficulty of introduction or removal of the instrument, we consider their employment a hospital procedure. Therefore, we have made no mention of our experience with them in this paper.

Dr. Samuel J. Sinkoe (Atlanta): I wish to thank the gentlemen for discussing this very interesting and timely subject.

Dr. Reavis is of the opinion that sulfanilamide tablets should be given alone and not combined with any other form of therapy. I am aware of the fact that the method of treatment as employed by Dr. Reavis has a large number of advocates and the results obtained have been excellent. On the other hand, in evaluating the results obtained in the treatment of patients with gonorrhoeal infection, I am convinced that the combined method of treatment which I have employed, is far superior to the method in which sulfanilamide tablets are prescribed alone, for the following reasons:

The patient is regularly under observation and any toxic effect of the drug can be readily detected, and the drug immediately stopped; when the tablets are prescribed alone the patient is apt to minimize his infection and stop treatment too early only to become a carrier. The mental attitude of the patient is better when he is given urethral injections combined with the internal medication of the tablets; the combined treatment, from my experience, brings about a more rapid cessation of the discharge and quicker recovery; permanganate irrigations, 1:5000 dilution, given under low pressure, followed by instillations of a mild silver salt, has been advocated for a number of years to be of real value in the treatment of gonococcic infections.

Surely the addition of this form of therapy should enhance the value of sulfanilamide medication. The combined method of treatment is employed by many of our leading urologists with excellent results.

Titles for papers to appear on the program for the 1939 session of the Association should be submitted to the Secretary-Treasurer.

PROGRESS OF MEDICINE IN GEORGIA*

GEORGE A. TRAYLOR, M.D.
Augusta

Ninety-six years ago in the village of Jefferson, Georgia, eighteen miles from here, occurred a discovery, momentous in the annals of medicine and in the prevention of suffering—the first recorded induction of general anesthesia by means of a chemical compound. The remoteness of the scene of action from the busy marts of trade and learning, and the relatively unknown discoverer, serve to add fame and glamour to the achievement. A country physician, Crawford Williamson Long, not quite twenty-seven years of age and just out of medical school, by observation, reasoning and experiment did something never before accomplished, rendering a human being unconscious by means of inhalations of sulphuric ether and performing an operation upon him while in this state without the infliction of pain.

In this day when surgical procedures are so common we are apt to pass over this milestone of progress with little thought. To be the first to try anything novel requires courage, and when this applies to remedial measures, courage of a high order combined with judgment is necessary. It is, therefore, gratifying that our great State University elects to commemorate the name of Crawford W. Long, for this day is of consequence to Georgians, to this institution, his Alma Mater; to the profession of medicine everywhere, to every beneficiary of his great gift, and a distinct honor to those permitted to participate in this occasion, now an annual event of our University.

Roger Babson wrote: "Manhood, initiative, independence and those other characteristics which make for individual enterprise are born and develop on farms and in villages." Crawford Williamson Long was such a product. All honor to him and his memory. He did not enter his chosen field with the advantages of the many facilities now available, and it is well we review the road

*Address at the anniversary celebration of the discovery of ether anesthesia by Crawford W. Long, M. D., at the University of Georgia, Athens, March 30, 1938.

traveled by his predecessors and tell something of the travelers. In this way we can better evaluate his contribution to medical knowledge and trace the progress of medicine in our State from his epoch-making demonstration. We are too likely to think our successes due to our unaided efforts, and fail to give credit to those who laid the foundations upon which we now luxuriate. Certainly in that branch of endeavor in which I am engaged, Medicine, succeeding generations have advanced over the shoulders of their antecedents.

Our forbears who sailed from other shores to make homes in America suffered privations, hardships and illnesses on the long and tedious voyages, crossings rarely requiring less than two months and often as much as four. It is said a regulation was made in 1732 appropriating thirteen guineas for the relief of sick and childbearing women during passage to the province—the first regulation dealing with public health as it pertained to the future inhabitants of Georgia. A measure of the hazard is gained when one realizes that a ship embarked with 172 on board and 40 of those died during the voyage. After landing questions of food and shelter were urgent. In the manner the newcomers had to live, they necessarily had to undergo many hardships, and the nature of the lowlands, where some of them settled, was conducive to ill health. Few medical practitioners accompanied the colonists, and one Dr. Thomas Hawkins (1740) of Savannah was in such demand he frequently had to go as far as Darien to visit the sick. In 1742 there were no lawyers, schoolteachers or physicians in Augusta.

Illnesses were dominated by fevers, dysentery and smallpox. Chronic afflictions were not often recorded, unless an important personage was the sufferer. Any malady accompanied by fever was denominated "fever." Typhoid, typhus, malaria, yellow fever and probably other acute diseases were included under this category. Not much progress had been made since the Humble Man of Nazareth entered Peter's house and, "saw his wife's mother laid, and sick of a fever" (Matthew, 8:14). It was not until nineteen centuries should elapse when, in a dusty garret in Lille, France, Louis Pasteur laid the groundwork

for separating the fevers into their distinct disease entities.

In 1742 Savannah had what was termed "an epidemical malignant fever"—probably yellow fever. Yellow fever was believed to have been imported to American shores from Africa by means of the slave trade. Slavery was outlawed in the Province of Georgia until 1749. However, slave ships touched at Charleston and Tybee Island prior to that date and it would have been an easy matter for the disease to have been disseminated. There is one note bearing on this question: "Captain Hamlin came in from the coast of Angola in Ginny with 350 slaves; 250 died in passage." The danger from the slave trade was recognized, and "a lazaretto was to be built at Tybee (1749)."

Smallpox played havoc with the Indians as well as the settlers. In 1740 a thousand warriors are said to have died of this cause, although, as they admitted, rum brought to them from Carolina exercised a determining effect. In 1748 there was an epidemic of smallpox in Augusta. How it was treated is not recorded but probably the therapeutic tripod of Dr. Benjamin Rush held sway—*bleeding, blistering and purging*. Dr. Rush was a pompous and dogmatic individual, and admitted that "Medicine is my wife and Science is my mistress." In reply to this epigram the inimitable Oliver Wendell Holmes answered: "I do not think that the breach of the seventh commandment can be shown to have been of advantage to the legitimate owner of his affections." Edward Jenner introduced vaccination into England in 1798, and his discovery is the basis of all immunologic studies. Dr. James Ewell, with virus obtained from his friend and patron, Thomas Jefferson, began vaccinating in Savannah in 1801.

At the close of the American Revolution there were only about 3,000 physicians in the original thirteen states, and not more than 200 of these held the degree of Doctor of Medicine. The number of practitioners in Georgia was less than 100, and only two of these were graduates of medical schools—William Parker and William Cocke, both of Savannah and both graduates of the University of Pennsylvania, in the class of 1798. The

others received their training by means of the preceptor system—assisting an established practitioner for from two to seven years. The distinguished Dr. Noble Wymberly Jones of Savannah was so taught by his father. Medical schools were not available in the colonies previous to 1765. Between that date and 1804 medical education was provided at the universities of Pennsylvania, Columbia and Harvard; and Dartmouth College. Prior to 1765 one who desired to pursue medical studies in an institution had to go to Europe. After the beginning of the nineteenth century a greater number of physicians with degrees were available.

Physicians of that period did not limit their activities to their profession but engaged in agriculture, politics or any other pursuit that came to hand. In the Colonial period and after the Revolutionary War there was little money, much hard living, roads were few and, at times, impassible; streams were not bridged and travel was always hazardous. The doctor's life was not an easy one. Those who treated the ill were divided into three classes: Physicians with the degree of Doctor of Medicine, few in number; those who learned the art by the apprentice method; and plain quacks. For over twenty-five years following peace there was no legal system of licensing physicians. Any person with slight knowledge of drugs and chemicals could undertake the treatment of the ill, provided, as always, patients could be had.

The first medical society in the State was organized in Savannah in 1804, the Georgia Medical Society. It is one of the oldest in the United States, and is still in existence under its original name serving the State and Nation well. Dr. Noble Wymberly Jones was the moving spirit in its foundation and the first president. At the time he was active in medical society work he was 81 years of age, showing that one of advanced years may possess that rare mental attribute, judgment, combined with flexibility of mind. The objects of that medical organization were "for the purpose of lessening the fatality induced by climate and incidental causes, and improving the science of medicine." Noble aims, the prevention of disease and elevation of the standards of medical education. Under the sponsorship of the society \$200,000 was ap-

propriated by the city of Savannah (population not 8,000) to purchase certain rice fields in and adjacent to the city and the first malaria-control work ever undertaken in the United States was carried out. Dr. William C. Daniell was one of the noteworthy early members of the society, he having first used and published his results with the treatment of fractures by means of extension, a method universally used today.

The Augusta Medical Society was chartered with nine members in 1822.

Georgia was the first state in the Union to have a law requiring registration of births (1823). It was not until 52 years later that a measure was enacted for the registration of deaths. Until that time, and especially before the Revolution, births, christenings, marriages and deaths were recorded in the archives of the parish churches. It is said that one reason why the Crown and Colonial authorities were so favorable to the Church of England was to have available some reliable agency to keep accurate records of births, deaths and other pertinent information.

From 1821 to 1825 medical men desiring to practice in Savannah were required to obtain a license from the Georgia Medical Society; this was a State law but did not apply outside Savannah. By an act of the General Assembly of 1825 a board of physicians was authorized to examine into the fitness of those aspiring to treat the sick. Dr. Milton Antony of Augusta soon perceived that something more drastic was needed—an institution in the State to train physicians. Dr. Antony had attended only one session in a medical school but later in his life two universities conferred upon him the honorary degree of Doctor of Medicine. As early as 1826 Dr. Antony, with the aid of his apprentice, J. A. Eve, had been teaching in a modest way a few pupils, in the Augusta Hospital (1817). From that small beginning he interested his confreres in the establishment of a medical academy in Augusta. The original intent was to confer the degree of Bachelor of Medicine, preparatory to the student's entrance into some one of the older medical schools. The academy became a reality in 1828, and after altering the name to the Medical Institute of Georgia, the first class of four men was graduated in 1833. The name was again changed

to that of the Medical College of Georgia, and classes were taught in the original college building in 1835.

It should be a matter of justifiable pride to all of us that the first effort by a medical college in this country toward elevating the standards of medical education in the United States originated with the faculty of this youthful Southern school, now the School of Medicine of the University of Georgia. Their proposal is an index of the scholarly minds that directed its foundation and development. In May 1835 a letter was addressed to all other medical colleges in the Union, suggesting a meeting in Washington for the purpose of raising entrance requirements, lengthening and improving the curriculum. Few schools even replied. The members of the faculty possessed brilliance, foresight and initiative but their appeal fell upon deaf ears throughout the medical teaching world. When that plea was made one could graduate in medicine by attending two courses of lectures of four months each. Thirty-eight years later the school became an integral part of the University System of Georgia and, we hope, is on the way to achievements that will prove worthy of its distinguished historic background.

About the time Dr. Crawford Long located in Jefferson the population of Georgia was 516,823 and 217,530 of those were slaves. Augusta had a total of 6,690 inhabitants; Milledgeville, the Capitol, boasted 1,559, and Savannah had less than 8,000.

Previous to Dr. Long's historic operation on James M. Venable, March 30, 1842, opium, hashish and mandragora appear to have been the chief means employed by the ancients to obtund the pains of surgical procedures. A later remedy was an alcoholic distillate, called "aqua ardens." Early in the nineteenth century the alkaloid morphine was isolated from opium and it assumed first place in the field, particularly when combined with an alcoholic potion. Mesmerism had its adherents.

This summarizes in part the state of medical knowledge and practice, and the living conditions and advantages under which our hero began his auspicious career. The nearest railroad was 140 miles distant; the nearest

hospital in Augusta, was a crude affair, with no laboratories or x-ray equipment, with a few instruments and drugs, but a restless and enquiring staff. Let us permit a dispassionate critic tell the story. In the fourteenth edition of the Encyclopedia Britannica under Dr. Long's biographic sketch is found the following: "American physician (1815-1878), was born at Danielsville, Georgia, on November 1, 1815. He graduated at Franklin College, Georgia, and secured his medical education at Transylvania University and the University of Pennsylvania. After finishing his course he spent 18 months in New York City hospitals observing and performing surgical operations. In 1841 he returned to Jefferson, Georgia, to open his practice and there on March 30, 1842, he administered ether to a patient before removing a tumor from the neck, *the first recorded use of an anesthetic in surgery*. Dr. Long performed at least eight other operations with the use of ether before 1849, when he published an account of his discovery in the Southern Medical and Surgical Journal. He died at Athens, Georgia, on June 16, 1878." The medical publication just mentioned was one of the first medical journals in the South, and was edited and published by the Faculty of the Medical College of Georgia. Not only did this careful, painstaking, conscientious and honest physician publish his results but he broadcast the information among his colleagues and to others whom he thought might be interested. Neither did he attempt to keep the agent used secret, nor camouflage it; but revealed that he was using sulphuric ether, a chemical compound, at that time known to the medical and pharmaceutical professions for over two hundred years.

When a physician or true scientist discovers something that redounds to the good of humanity it is given to the world without price, and our profession regards as unethical the patenting of a drug, serum or device that will bestow financial reward to the discoverer. Our code of ethics is occasionally inveighed against, but let me caution you to help us guard it as you would our liberty, for without it as a guide medicine could easily become commercialized. Pasteur could have made several fortunes out of the wine-makers, silk-

growers and stock-raisers of France, not to mention his disclosures as to the origin and treatment of diseases, such as rabies; von Behring could have been a modern Croesus out of his profits from diphtheria antitoxin; and, Banting, MacLeod, Collip and Best could be wealthy beyond the dreams of "economic royalists" had they patented insulin. None chose this path to an easy life. Dr. Long merely wished to be known as a "benefactor to his race." What greater reward could one aspire to? Too often one's recognition is posthumous and Dr. Long's general recognition came too late for him to know of it, but he is today considered to be one of mankind's greatest benefactors.

Ether was used as an inhalant in asthma and tuberculosis before it was used as a general anesthetic. Medical students and chemists knew of its exhilarating qualities. From a surgical textbook by Boston contributors is gleaned the following: "In 1843 Dr. Crawford W. Long of Jefferson, Georgia, a brilliant young fellow, had so recently entered practice as to have time enough on his hands to indulge, on occasion, with friends, in 'ether frolics.' However, he took more good than harm from these episodes, for, having noticed, as he believed, that those who had inhaled ether became insensible to pain, he administered the drug to a patient from whom he painlessly removed a tumor of the neck. His success he thus recorded laconically in his journal: 'James Venable, March 30, Sulphuric ether and exsecting tumor \$2.00'." Thus, Dr. Long did not, as alleged, "stumble upon" his discovery, but it was the result of keen observation, cogent reasoning and practical application of sound premises. *The discovery of anesthesia is the great contribution America has made to medicine*, and that it came from a remote settlement in our State and from a native son who became a great physician, is all the more reason for Georgians to feel a sense of pride in this achievement. While one does not live on pride and traditions, the accomplishment of our young country doctor, whose memory we honor today, should be a stimulus to each of us to do our very best to imitate his example by making every effort to contribute to human health and happiness.

Some accounts leave the impression that Dr. Long remained obscure but this is far from the truth. Nor were his associations obscure. The medical organizations previously alluded to were local in nature, being confined to the more populous areas of the State. However, in March 1849 about eighty physicians of the State assembled in Macon and organized the present MEDICAL ASSOCIATION OF GEORGIA, which has grown to a membership of more than 1,800. Dr. Long was a moving spirit in that undertaking and always maintained a keen interest in its welfare. The eighty-ninth annual session of that Association will take place in Augusta the latter part of next month.

In 1854 Dr. John G. Westmoreland of Atlanta, a graduate of the School of Medicine of the University of Georgia, was the motivator in interesting his colleagues in organizing and chartering the Atlanta Medical College. That school, together with others which originated in Atlanta, combined to form the present splendid Medical Department of Emory University. Other medical colleges thrived for a time in this State, but only two have been able to weather the storms, due largely to strict standards in medical education.

One reads of the ravages of hospital gangrene, child-bed fever and the morbidity and mortality of surgical procedures with a shudder. Surgeons spoke and wrote of laudable pus, and if a wound happened to heal without suppurating they believed something terrible had gone amiss and, too often, such was the case. In 1843 Oliver Wendell Holmes wrote an essay on "The Contagiousness of Puerperal Fever." He was so criticized by his brother practitioners that he gave up practice, saying: "No man makes a quarrel with me over the counterpane that covers a mother, with her new-born infant at her breast. There is no epithet in the vocabulary of slight sarcasm that can reach my personal sensibilities in such a controversy. . . . There is no quarrel here between men, but there is deadly incompatibility and exterminating warfare between doctrines." He devoted the remainder of his life to teaching anatomy. Four years later a young Hungarian, Ignaz Philipp Semmelweis, assistant professor of obstetrics in

the University of Vienna, taught that infection was the cause of puerperal fever, and plead with physicians to wash their hands in chloride of lime before attending maternity cases. He did not possess the equanimity of Holmes and, because his theory was disbelieved and his suggestions unheeded, spent his last days in a lunatic asylum. During the War Between the States Dr. Louis A. Dugas was serving in the military hospitals in Augusta. Hospital gangrene was rampant. He tried the usual remedies to no avail and began the use of tar water, "made by pouring a gallon of hot water on a gill of pine tar and stirring it a little." He stated, "it is the best disinfectant I know of in hospital gangrene, and altogether, I think, the best application." Those men did not have the benefit of Pasteur's experimental work, but their reasonings were sound. In 1867 an Edinburgh surgeon, Joseph Lister, announced a new measure for combatting wound infections, particularly in patients with compound fractures. At first other medical men ridiculed his teachings and practices. He applied the researches of Pasteur to the treatment of the wounded, and later wrote to him: "In our hospital you will see in a large measure how humanity has profited from your work."

Truth cannot be hidden for long, and the teachings of those men are now in every day use. The antiseptic method of treating wounds and the aseptic procedures in preparation for operations is said to have been introduced into Georgia by the late Dr. Willis F. Westmoreland of Atlanta in 1886. When one now enters an institution for treatment the comfort and safety of the experience hark back to Crawford W. Long of Georgia, Louis Pasteur of France and Sir Joseph Lister of Scotland. Each made available a never-before-opened chamber of knowledge. There should be a celestial bell intoned in the Pleiades or chimed across Orion when men like Long, Pasteur and Lister open their eyes and look around (paraphrased from Wilson).

The first public health measure passed in Georgia was for the control of smallpox (1866). In 1875 the Legislature created a State Board of Health, and appropriated \$1,500 for its operation. Two years later

no funds were allocated for its continuance. Upon that action by the General Assembly, Dr. Eugene Foster of Augusta, in "Memoirs of Georgia," commented as follows: "Utterly devoid of appreciation of the possibilities and economy of the public health service, the Georgia Legislature, in 1877, blotted the State Board of Health out of existence by refusing the paltry sum of fifteen hundred dollars a year for its maintenance. This one act resulting from shameful ignorance has done more to retard the prosperity of the State than any other act since the establishment of the colony." The second board was authorized in 1903, with an appropriation of \$3,000. Thus, for twenty-six years the State was without a health agency. The State Health Department again went out of existence in 1931, due to political madness. At that time the annual appropriation was \$165,000. In 1932 the department was operated under an advisory board and in 1933 the present State Department of Health began operating. Political juggling with the people's health is a dangerous procedure.

In 1842 the State Sanitarium for Mental Diseases was established. That institution now has a bed capacity of 6,000, and cannot supply the State's needs for this class of patients. The Georgia Training School for Mental Defectives was opened in 1921, and fills a distinct place of usefulness. However, the younger generations must begin to think of means of lessening the occurrence of these preventable mental misfortunes. Mr. Justice Holmes said, "three generations of imbeciles are sufficient." We should not lightly cast aside the work of Gregor Mendel; it works with humans as well as flowers.

The State Sanatorium for Tuberculosis was opened in 1910. It fills a real need, and is an institution of which every citizen may be proud. More beds must be provided for this class of patients.

The State has facilities for the deaf, dumb and blind, which is one of its great humanitarian provisions.

Our State Medical Association and the State and County Health Departments have for some years carried on a venereal health program, an educational and clinical campaign against cancer and are trying to en-

lighten the people as to ways and means to lessen maternal and infant mortality.

At the present time one hears much excited talk concerning state medicine. State medicine has been defined as "the assumption by the State of those duties in the prevention, treatment and alleviation of disease usually delegated to individuals who have been prepared and certified for this purpose." The previously recited activities of our State in this field have been detailed to show the evolution of social thinking, and acting, along this line of human endeavor. The Federal Government, through the United States Public Health Service, the various Veterans' Administration Facilities and the Children's Bureau of the Department of Labor is engaged in state medicine. Several of the counties and municipalities in Georgia provide medical and hospital care for their medically indigent, which is also state medicine. It is my belief that these means came about as the result of the activities and sponsorship of the medical profession, while recent revolutionary proposals emanate, almost entirely, from those outside the ranks of medicine.

The Committee on Public Policy and Legislation of the Medical Association of Georgia persuaded the members of the recent special session of the General Assembly to enact a measure whereby a constitutional amendment can be voted by the electorate which will permit counties to legally appropriate tax funds to care for the indigent ill, and to erect some necessary hospitals for this same purpose. However, our work has just begun as we shall have to persuade the voters to cast their ballots for this disinterested and humanitarian amendment to our State constitution.

We physicians are not callous to moral values, and are fully cognizant of our ethical obligations and human relationships. We assume it as our responsibility to devise ways and suggest means whereby everyone, regardless of race or creed or economic or social status, may be provided with adequate medical and hospital care. Aristotle, in his "Doctrine of the Mean" said liberality lies between avarice and prodigality. In commenting upon this Professor Rodgers avers that moral virtue is the sort of action which meets adequately any situation that confronts us;

the mean of right giving, for example, is to give to the right person, the right amount, at the right time, for the right cause and in the right way. Medically indigent is to me a relatively new designation. As I have deciphered the phrase it means those capable of supplying themselves with the ordinary means of existence, when all goes well, such as fuel, food, raiment and housing, but not medical and hospital care during long and serious illnesses. Sometimes this group unconsciously rebuffs attempts to aid them by purchasing what appears to be unnecessary luxuries, but we must realize that modern inventions, high-pressure salesmanship and commercial greed have placed temptations in the way of all of us. Men and women in the low economic levels have desires as well as those in the higher brackets.

Hospitalization is important in all medical care programs. In Georgia it is the rural and small-town dwellers most in need of assistance; most of our hospitals are in twenty counties. When confronted with a large hospital bill, which may well absorb the whole of a year's toil, or the savings of a life-time, the patient's faith is broken, especially if restoration of health has not been secured.

What will prove to be adequate medical care for the people of one state will not be for another, and it is believed each state and county medical society should study its local problems, and recommend and execute programs to meet local needs. Whatever plans are proposed, funds appropriated and control of services rendered, should remain local in so far as this is possible. In some instances State aid, and in others Federal assistance may be necessary, the latter in emergencies.

Georgia is a wonderful State, and it is heartening to see with what abundance nature has provided us. We are environed for healthful and plentiful living, and it only remains for those of better understanding to inculcate these facts into the minds of everyone in our State. THE MEDICAL ASSOCIATION OF GEORGIA has recently established a Bureau of Public Relations, which has as its objective the enlightenment of the people as to matters of health and diseased conditions. Tuberculosis, malaria, hookworm disease, pellagra, venereal infections, maternal mortality and infant mortality are problems that

can be solved. Education of the masses should be the watchword. It is useless to expect an anemic, poorly-nourished and improperly clad child to study, and it is asking more than is physically possible of the adolescents and adults in the same condition to compete with those in good physical condition. Paraphrasing Mr. Babson: The most important crop is not corn, cotton, grain, peaches or watermelons, but *men and women*. We have been busy trying to grow more per acre and manufacture more goods and have forgotten to try to make better people. It is most gratifying to note that your distinguished President, Dr. Harmon Caldwell, has established an Institute for the Study of Georgia Problems. Every one of you, and every citizen in our State should lend wholehearted support to this worthwhile and progressive undertaking. May I say, Dr. Caldwell, that we hope you will call upon THE MEDICAL ASSOCIATION OF GEORGIA and its individual members for any assistance you may think we as an organization or individuals can render.

Today many are carried away by social-economic theories. Social and economic security is a living question. "Neither can be bought with money, and are beyond the wealth of this nation to provide; but both are obtainable by right living as we relate ourselves one to another." (Skaggs.) If Dr. Long were alive I am sure he would take an active interest in the question of rendering adequate medical care to our less fortunate citizens. "He was an honor to his Alma Mater, a glory to his State and Nation and a benefactor to the human race."

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HOUSE OF DELEGATES OF THE A. M. A. CONSIDERS NATIONAL HEALTH PROGRAM

C. W. ROBERTS, M.D.

Atlanta

For the third time in its history the House of Delegates of the American Medical Association has just concluded an extraordinary session. Special sessions of the House are called when in the judgment of the Board of Trustees problems arise of such importance and serious import to the rank and file of the profession as to make immediate consideration by the Association's policy-making body urgently necessary.

The first such call assembled the House soon after the entrance of the United States into the World War and concerned itself with measures designed to mobilize the services of the medical profession and offer them to the Government in connection with legislation setting up the selective draft.

The second special session was called soon after the present Social Security Law was placed before the Congress of the United States for consideration and dealt with those medical provisions of the Act which, if carried into effect without proper safeguards, were considered to abridge the private and personal relation of the physician to his patient and thus to lower the quality of medical care. It was this session which set up the now famous so-called ten principles, or commandments, to be observed in the development of special plans of practice by constituent societies.

The third special session was called to meet in Chicago Sept. 16, 1938, for the purpose of considering a National Health Program growing out of the National Health Conference recently held in Washington, and proposed by the Presidents' Interdepartmental Committee, to coordinate Health and Welfare Activities.

Since the proposals of the National Health Conference recommended certain fundamental changes in the delivery of medical service with centralization of control over the operation of this so-called "complete program of medical care" in a series of Federal Bureaus, it will be readily understood that the delib-

erations of the recent House pertained to matters of transcending importance. As conceived by us the danger to the Nation's Health Service laborously and unselfishly built through the unfettered initiative of a free medical profession and enjoying respect and adulation the world over was and perhaps remains threatened with disruption through the imposition of a visionary scheme of universal medical care to be supported by Federal taxation. If such a system should unhappily be written into law it would not only spell doom to the practice of medicine as a profession but what is worse would assuredly lower the quality of medical care if perchance the quantity was increased. Thus concern for ourselves is swallowed up in the greater concern which our obligation to the public welfare imposes upon us.

That there was universal medical interest in the agenda proposed for consideration is attested by the fact that out of a possible full complement of 174 delegates, 165 responded to the roll call. While the deliberations were conducted in an atmosphere of intense interest in which it would have been easy to see calm judgment replaced by a wave of emotional, if not obstructive enthusiasm, it must be said to the credit of this House that the delegates approached their task in sober realization that the time had come for the exhibition of a spirit of tolerance for those both within and out of the profession holding views at wide variance with the fundamental traditions of medicine. Let me hasten to say that there was no capitulation to the radical element which would undertake to impose upon the people of the United States an unsound system of compulsory health insurance. It is rather to suggest that the only body constituted through democratic procedure and authorized to speak for American Medicine recognized at this special session, perhaps more clearly than before, that there were honest differences between capable proponents of the liberal and conservative schools of thought with respect to the methods to be employed in curing the defects in the present system which both accept as calling for prompt solution. To put it another way, there is now agreement on the part of legislators, social workers, public representatives, industrialists and members of the medical

profession, that certain changes are necessary in the delivery of medical services in order that the benefits of preventive and curative medicine may reach all who are inherently entitled to them. *But there is wide disagreement as to the methods to be employed to gain these worthy objectives.* This session of the House again sought to resolve these differences through the application of the age-old principles and policies of the profession to the peculiar problems of our day, at the same time endeavoring to conserve in so far as practicable the laudable traditions of medicine with special reference to the maintenance of the physician-patient relationship. *Moreover, to avoid regimentation it is recognized that the membership of our Association must be committed to the principle of cooperation with other agencies in dealing with health problems admittedly requiring approach from the standpoint of community interest and responsibility.*

In this spirit the following report of the reference committee of twenty-five, who studied serially the five recommendations of the National Health Conference, was unanimously approved and became, until revised by some future session, the policies of the American Medical Association and its 110,000 members regarding the recent proposals of the National Health Conference and indicates by the same token the degree of cooperation which it is felt the American Medical Association can safely offer.*

†1. Under Recommendation I on Expansion of Public Health Services: (1) Your committee recommends the establishment of a federal department of health with a secretary who shall be a doctor of medicine and a member of the President's Cabinet. (2) The general principles outlined by the Technical Committee for the expansion of Public Health and Maternal and Child Health Services are approved and the American Medical Association definitely seeks to cooperate in developing efficient and economical ways and means of putting into effect this recommendation. (3) Any expenditures made for the expansion of public health and maternal and child health services should not include the treatment of disease except so far as this cannot be successfully accomplished through the private practitioner.

2. Under Recommendation II on Expansion of Hospital Facilities: Your committee favors the expansion

*In order that the reader may more readily comprehend the extent of agreement or dissent contained in the following report of the special session, it is advisable that the recommendations of the Technical Committee of the National Health Conference, in *The Journal of the American Medical Association*, July 30, 1938, volume 3, pages 432-454, be read with each corresponding sub-head of the report.

†Reprint from *The Journal of the American Medical Association*, Chicago, September 24, 1938.

sion of general hospital facilities where need exists. The hospital situation would indicate that there is at present greater need for the use of existing hospital facilities than for additional hospitals.

Your committee heartily recommends the approval of the recommendation of the technical committee stressing the use of existing hospital facilities. The stability and efficiency of many existing church and voluntary hospitals could be assured by the payment to them of the costs of the necessary hospitalization of the medically indigent.

3. Under Recommendation III on Medical Care for the Medically Needy: Your committee advocates recognition of the principle that the complete medical care of the indigent is a responsibility of the community, medical and allied professions and that such care should be organized by local governmental units and supported by tax funds.

Since the indigent now constitute a large group in the population, your committee recognizes that the necessity for state aid for medical care may arise in poorer communities and the federal government may need to provide funds when the state is unable to meet these emergencies.

(A person is medically indigent when he is unable, in the place in which he resides, through his own resources, to provide himself and his dependents with proper medical, dental, nursing, hospital, pharmaceutical and therapeutic appliance care without depriving himself or his dependents of necessary food, clothing, shelter and similar necessities of life, as determined by the local authority charged with the duty of dispensing relief for the medically indigent.)

Reports of the Bureau of the Census, of the U. S. Public Health Service and of life insurance companies show that great progress has been made in the United States in the reduction of morbidity and mortality among all classes of people. This reflects the good quality of medical care now provided. Your committee wishes to see continued and improved the methods and practices which have brought us to this present high place.

Your committee wishes to see established well co-ordinated programs in the various states in the nation, for improvement of food, housing and the other environmental conditions which have the greatest influence on the health of our citizens. Your committee wishes also to see established a definite and far reaching public health program for the education and information of all the people in order that they may take advantage of the present medical service available in this country.

In the face of the vanishing support of philanthropy, the medical profession as a whole will welcome the appropriation of funds to provide medical care for the medically needy, provided, first, that the public welfare administrative procedures are simplified and coordinated; and, second, that the provision of medical services is arranged by responsible local public officials in cooperation with the local medical profession and its allied groups.

Your committee feels that in each state a system should be developed to meet the recommendation of the

National Health Conference in conformity with its suggestion that "The role of the federal government should be principally that of giving financial and technical aid to the states in their development of sound programs through procedures largely of their own choice."

4. Under Recommendation IV on a General Program of Medical Care: Your committee approves the principle of hospital service insurance which is being widely adopted throughout the country. It is susceptible of great expansion along sound lines, and your committee particularly recommends it as a community project. Experience in the operation of hospital service insurance or group hospitalization plans has demonstrated that these plans should confine themselves to provision of hospital facilities and should not include any type of medical care.

Your committee recognizes that health needs and means to supply such needs vary throughout the United States. Studies indicate that health needs are not identical in different localities but that they usually depend on local conditions and therefore are primarily local problems. Your committee therefore encourages county or district medical societies, with the approval of the state medical society of which each is a component part, to develop appropriate means to meet their local requirements.

In addition to insurance for hospitalization your committee believes it is practicable to develop cash indemnity insurance plans to cover, in whole or in part, the costs of emergency or prolonged illness. Agencies set up to provide such insurance should comply with state statutes and regulations to insure their soundness and financial responsibility and have the approval of the county and state medical societies under which they operate.

Your committee is not willing to foster any system of compulsory health insurance. Your committee is convinced that it is a complicated, bureaucratic system which has no place in a democratic state. It would undoubtedly set up a far reaching tax system with great increase in the cost of government. That it would lend itself to political control and manipulation there is no doubt.

Your committee recognizes the soundness of the principles of workmen's compensation laws and recommends the expansion of such legislation to provide for meeting the costs of illness sustained as a result of employment in industry.

Your committee repeats its conviction that voluntary indemnity insurance may assist many income groups to finance their sickness costs without subsidy. Further development of group hospitalization and establishment of insurance plans on the indemnity principle to cover the cost of illness will assist in solution of these problems.

5. Under Recommendation V on Insurance Against Loss of Wages During Sickness: In essence, the recommendation deals with compensation of loss of wages during sickness. Your committee unreservedly endorses this principle, as it has distinct influence toward recovery and tends to reduce permanent disability. It is, however, in the interest of good medical care that the attending physician be relieved of the duty of certifica-

tion of illness and of recovery, which function should be performed by a qualified medical employee of the disbursing agency.

6. To facilitate the accomplishment of these objectives, your committee recommends that a committee of not more than seven physicians representative of the practicing profession, under the chairmanship of Dr. Irvin Abell, President of the American Medical Association, be appointed by the Speaker to confer and consult with the proper federal representatives relative to the proposed National Health Program.

CANCER

*A Responsibility of the Medical Profession**

In each Journal certain known and fundamental facts concerning cancer will be brought to the attention of members of the Association. As these facts about cancer become general knowledge the chance for its early recognition and possible cure is increased.

While the secret of the origin of cancer is still to be revealed, medical science and an intelligent public have come to know the habits of its development and growth. That the physician has at his command all available knowledge regarding the most important features of cancer is important because if cancer is recognized in its early stage, and thoroughly and skillfully treated, the majority of these patients should get well; and in the more superficial group, such as the skin and lip, nearly all should get well.

The death rate from cancer in Georgia can be reduced in two ways: first, by early diagnosis; and second, by early treatment.

The fate of the cancer patient usually depends upon the action taken by the first physician consulted. This responsibility must be assumed by the medical profession in this State.

Study of 1,000 unselected cases from the Memorial Hospital in New York City revealed a divided responsibility for the delay in treating cancer. The patients were found to be responsible for this delay in 44 per cent of the cases; patient and physician were both responsible for 18 per cent, and the physician alone was responsible in 17 per cent. In about 20 per cent of the cases there was no delay.

One month's delay was considered ample time for the physician to make a correct diagnosis, or refer the patient to a clinic. The greatest responsibility is taken by the first physician whom the patient consults. It is important that he recognize the seriousness of the condition, and, if necessary, refer the patient to a proper consultant.

In the Memorial Hospital series five types of error were made:

1. Wrong treatment.
2. Wrong advice.
3. No treatment, and no advice.
4. Acceptable treatment but delay in referring the patient to a brother physician who was more competent to treat the lesion.
5. Inability to diagnose the condition within a month.

The causes of the patient's delay were found to be:

1. Ignorance of the seriousness of the first symptoms.
2. Unwillingness to face the truth.
3. Financial circumstances prevented them seeking treatment.
4. Failure of the patient to accept advice.

In this group of cases there was an average delay of $6\frac{1}{2}$ months before the patient consulted a physician. This delay may be remedied by education in cancer control.

HAZEL E. MUNSELL, Washington, D. C. (*Journal A. M. A.*, Sept. 3, 1938), states that the importance of vitamin B₁ in physiologic and pathologic conditions has emphasized markedly the need of devising accurate methods for the quantitative determination of this substance in foods. Until recently the chemical identity of vitamin B₁ was unknown, rendering it impossible to develop chemical methods of analysis, and accordingly recourse was had to biologic methods of assay using rats and pigeons as test animals. Much information regarding the vitamin B₁ content of foods has been gained in this way, especially by the method in which the growth of rats was used as the measure of potency. The technical aspects of various methods of bio-assay for vitamin B₁ are presented from the point of view of quantitative interpretation of the results obtained and the chemical methods that are being developed are discussed. The article also evaluates foods as sources of the vitamin.

The Georgia Pediatric Society will hold its next annual meeting in Augusta in January. There will be a number of national leaders who will appear on the program.

*Monthly Message by the Cancer Commission of the Medical Association of Georgia.

THE PRESIDENT'S PAGE

THE WOMAN'S AUXILIARY

Organized in Augusta in 1924, the Woman's Auxiliary to THE MEDICAL ASSOCIATION OF GEORGIA has become one of our most valued assets. Twenty-three of our good wives from seven scattered counties in the State made up the first gathering. At the meeting in Augusta this year, only a few short years from the beginning, the organization had grown to twenty-five Auxiliaries, representing thirty-four counties with a membership of more than four hundred fifty.

It is said that Dr. Edgar Shanks of Atlanta, now the secretary of the Association, was the first to propose to the Fulton County Medical Society (1923) the organization of a Woman's Auxiliary, but credit is given to Dr. Theodore Toepel of Atlanta for sponsoring the resolution which put the machinery in motion to start what is now our most creditable state-wide Auxiliary. Both of these gentlemen have followed with keen interest the growth of the organization, and have encouraged our wives to participate in the affairs so close to all of us.

The program outlined this year by the Auxiliary shows evidence of further progress: more organization work, and a Public Relations Bureau in each County Auxiliary which will present to lay organizations the Health Educational Program and other information outlined in cooperation with the Advisory Committee representing THE MEDICAL ASSOCIATION OF GEORGIA. Since the women are better moulders of public opinion than are men their work will certainly reflect in better health for all of our people.

Women now have suffrage and we shall depend upon them to help with our legislative program. We shall sponsor the Basic Science Bill and other important measures to correlate health programs for the benefit of our citizens. Any constructive legislative program must be taken to the people, and especially to our senators and representatives. Each member of the Auxiliary can be of inestimable service to our profession if she will help our Legislative Committee in this work.

During the past month a special session of the House of Delegates of the American Medi-



cal Association was held in Chicago to discuss the National Health Program. On other pages of this Journal will be found discussion of that meeting, which it was my privilege to attend. I wish to impress upon each physician's wife the necessity of studying the changes which will no doubt become law when the National Congress meets in Washington in January. Such changes do not mean that we are to have "socialized medicine," but suggest we are to have greater expansion of public health activities, and better medical and hospital care. Of course, there is always the possibility of socialization for our profession and we must be prepared to act if such attempts are made.

The Woman's Auxiliary has been most gracious in entertaining at the various medical meetings I have attended throughout the State and I wish to thank them for their service to the profession. Frequently I say to my brother physicians, show me a good Woman's Auxiliary and I will show you where there is a good medical meeting, meaning of course that it is the same place. I sincerely hope there will be an Auxiliary in every county in the State before 1940. Needless to say, the officers of the Association and the Advisory Committee wish to help all they can, so please call upon us at any time we can be of service.

GRADY N. COKER, M.D.

The Southern Psychiatric Association met at the Biltmore Hotel, Atlanta, October 10-11. Georgia physicians on the program were: Dr. Kells Boland, Atlanta; Dr. D. Henry Poer, Atlanta; Dr. Herbert S. Alden, Atlanta; Dr. M. K. Amdur, Augusta. Dr. Newdigate M. Owensby, Atlanta, is secretary-treasurer.

THE JOURNAL

OF THE

MEDICAL ASSOCIATION OF GEORGIA

Devoted to the Welfare of the Medical Association of Georgia

478 Peachtree Street, N. E., Atlanta, Ga.

OCTOBER, 1938

**CANCER OF THE COLON,
AND RECTUM**

The medical profession is in urgent need of becoming cancer-conscious when dealing with individuals complaining of bowel symptoms. The facts are: 15 to 20 per cent of these patients are treated for hemorrhoids, when bleeding is due to malignancy higher up; 80 to 90 per cent show signs of intestinal obstruction before a correct diagnosis is made, and 40 to 45 per cent are inoperable when finally placed in the hands of the surgeon.

Cancer of the colon and rectum is among the three or four most common groups of malignancy to which man is heir, and this in itself should make every one who examines an abdomen, or discusses abdominal symptoms with a patient, conscious of the possibility that the particular patient under study may have an early malignancy of the large bowel.

It is essential that one eliminate the repeated admonition that certain age groups are in the "cancer age." Reports in the literature indicate that malignancies of the gastro-intestinal tract in individuals from 3 to 20 are plentiful. The child or young adult with rectal bleeding or indefinite bowel disturbance is in as much need of study for malignancy as is the individual in middle age.

It is also essential that one learn to translate the early and vague abdominal symptoms, and bowel disturbances, into concrete evidence that such symptoms and disturbances are or are not due to malignancy of the colon. Due to the difference in the embryologic origin of the right colon from the left colon, malignancies in these two sections manifest themselves in a striking different manner. The right colon being related in origin to the small intestine has a function somewhat similar to that organ. The principal function of the right colon is absorption and there is always present a liquid fecal content; obstructive symptoms are late, but

the systemic symptoms are early and marked. The anemia and evidence of intoxication may be profound in right colon malignancies, with no demonstrable loss of blood in the stools. From cancer in the left half of the colon, and rectum, the loss of blood may be alarming, without producing an appreciable degree of anemia. In the left colon, the function of which is storage, obstructive symptoms may be the first to which the patient pays attention, although careful questioning will frequently elicit a history of a changing bowel habit, such as diarrhea alternating with constipation, dating back over a period of months.

The colon and rectum with their accessible anatomic structures make them the easiest portions of the gastro-intestinal tract to examine. Refinements in diagnostic technic in recent years leaves little or no reason for failing to make early diagnoses of these malignancies, other than the patient's failure to submit to early examination or the physician's failure to carry out adequate study. Improved roentgenologic technic, chiefly the air-insufflation of the colon following the evacuation of a barium enema, has been the most outstanding advance in diagnostic methods. The use of the sigmoidoscope is available to anyone who will supply himself with such an instrument; it can be safely adopted to office use. Seventy-five per cent of all carcinomas of the sigmoid and rectum are within reach of the sigmoidoscope, yet these patients are too frequently referred for operation only after obstruction occurs or metastasis has taken place. No patient with rectal symptoms of any nature should have any treatment until a thorough and satisfactory sigmoidoscopic examination has been made, and physicians unwilling to adhere to such a rule should not undertake to treat rectal diseases.

The best treatment of patients with colonic and rectal malignancies is operative removal. No one has as yet demonstrated conclusively the advantages of roentgen-ray or radium over the wide surgical removal of such lesions, and the regional lymphatics. The value of roentgen-ray therapy in conjunction with simple colostomy, in the palliative treatment of inoperable cases, is never questioned. These unfortunate individuals can be given months of comparative comfort by the judicious use

of such procedures. The earlier the patient is seen by the surgeon, the better the prognosis; both as regards the immediate operative mortality rate and the ultimate number of cured patients. Certain preliminary preparations are necessary to prepare these patients for operation, and close cooperation between the internist and surgeon is necessary. Patients with colonic malignancy who are encountered at emergency operation where laparotomy is a diagnostic procedure, and in whom extensive operative procedures are carried out, account for a large percentage of the operative fatalities. Every patient with carcinoma of the colon and rectum must be considered in the light of the duration of symptoms, age, general condition, location of the lesion, evidence of metastasis, and the apparent degree of malignancy present. When such considerations are given to each patient, and when proper treatment is instituted before and after the operation, the results will be increasingly satisfactory.

LON GROVE, M.D.

PNEUMOMYCOSIS

Some conditions are placed in the category of "rare disease" because the possibility of their existence is not commonly considered in attempting to arrive at a diagnosis. This is true of fungus infections of the lungs. In some excellent medical schools students are still taught only the traditional diseases of actinomycosis and blastomycosis, to the exclusion of all other mycotic forms.

Fungus infection of the lungs is not rare. Some types of aspergillus is the most common offender but other fungi are occasionally found. Climate affects the incidence of fungus infections to some extent, there being more in tropical countries; but many cases have been reported in northern United States, Canada, England, France, Austria, Russia and Denmark.

Acute mycotic infections may resemble acute bronchial asthma or bronchopneumonia. Many patients with chronic pulmonary mycosis are thought to have cardiac disease because of the presence of cough, shortness of breath on exertion, and cyanosis. Others, because of a cough of years' duration with varying amounts of sputum, are treated as bronchiectasis or chronic bronchitis which

they actually are, but the therapeutic results will be unsatisfactory unless the mycotic origin of the chronic infection is discovered. Progressive asthenia and attacks of nocturnal dyspnea are frequent symptoms. Hemoptysis may occur.

Physical signs are not diagnostic. Persistent moist râles at the bases of the lungs may be the only abnormal finding. In acute cases the findings may be identical with those of an attack of bronchial asthma. Quite frequently the breath sounds over the lower two-thirds of the lungs are high pitched and wheezing, resembling pulmonary emphysema.

The diagnosis may be suspected from the history or roentgenologic findings, but actual proof depends upon careful study of the sputum. Alert radiologists suspect pneumomycosis when there is a scattered, rather fuzzy or spider-web infiltration, especially involving the lower two-thirds of the lung fields and hilus areas. The character of the sputum varies; it may be scant and tenacious, or copious liquid, containing small round masses somewhat resembling grains of sago. Mycelium take an acid-fast stain and small fragments may be mistaken for tubercle bacilli, if this fact is not kept in mind. Fruiting heads can often be found in the fresh preparation, but culture of the sputum on Saboround's acid media may be the only method of identifying the infection.

Treatment consists of the administration of iodine, preferably by mouth, and neoarsphenamine intravenously over a long period of time. Deep roentgen therapy over the mediastinum and spleen has given relief in a few instances where other therapeutic procedures failed.

The end result in untreated patients with this infection is chronic progressive pulmonary fibrosis, bronchiectasis and myocardial failure. Partial or no relief results from treatment started late in the course of the disease. Early diagnosis is necessary for a cure.

ERNEST F. WAHL, M.D.

The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.

GEORGIA DEPARTMENT OF PUBLIC HEALTH

T. F. ABERCROMBIE, M.D., *Director*

CONFIRMATORY DIAGNOSIS OF RABIES*

During 1937 the laboratories of the State Department of Public Health received for examination the brain tissues of 1,308 animals suspected of rabies.

As a criterion of microscopic diagnosis the Negri body was sought. Of the 1,308 specimens, Negri bodies were found present in 677 (51.7 per cent), absent in 613 (46.9 per cent), and questionable in 18 (1.4 per cent).

The finding of typical Negri bodies is definitely diagnostic of rabies. Their absence, however, even after careful search by experienced microscopists does not rule out the possibility of rabies.

The absence of Negri bodies in the brains of animals killed in the early stage of active rabies probably means that they have not had time to develop. At times, however, even in the face of advanced clinical symptoms, Negri bodies are not found, for reasons unknown.

It is desirable, therefore, in many instances for the protection of persons bitten and for the satisfaction of all persons concerned that a confirmatory test be applied to specimens which are microscopically negative. This consists of inoculating small amounts of brain tissue suspensions intracranially into laboratory animals. If the virus of rabies is present the animal thus inoculated will almost invariably develop the disease.

Rabbits and guinea pigs have long been used for confirmatory inoculation. The incubation period of these animals varies greatly and is often of such length (two to three weeks) as to render the test unsuitable for the purpose required. Recent advances in this field have done much to solve this problem by the selection of certain strains of mice whose incubation period is not only much shorter but more uniform, being as a rule 8 to 10 days.

Webster and Dawson¹ described a method of testing for rabies virus employing a special strain of Swiss mice. The technic, briefly, is as follows: Suspected brain material is preserved in pure glycerine at refrigerator temperature. Under this condition, the virus is little affected and extraneous contamination is controlled. The brain tissue is ground with an abrasive substance under aseptic precautions and a 10 per cent suspension is made with Hormone broth (pH 7.8). The suspension is centrifugalized for 4 minutes at 1500 r.p.m. The supernatant fluid is injected intracerebrally (0.03 cc.) into each of 4 mice. In virus containing material, Negri bodies may

be demonstrated regularly on the 5th to 7th day. Symptoms in mice appear usually about the 8th or 9th day, paralysis and death occurring usually not later than the 12th to 15th day.

Leach² applied the procedure of Webster and Dawson to 1,032 specimens from widely separated laboratories. Of the 1,032 specimens received, 338 had been reported microscopically positive by the diagnostic laboratories, 690 negative, and 4 questionable. Among the 338 reported positive for Negri bodies, 3 proved to be negative on mouse inoculation. Of the 690 negatives, 83 (12.0 per cent) proved to be positive by mouse inoculation. Three of the 4 questionable specimens proved to be positive by mouse.

Last year, the Georgia Department of Public Health began, as a routine procedure, the mouse inoculation test for all microscopically negative brain tissue, including questionable specimens. A few positives as controls on the technic were included from time to time. From July 1937 to April 1938 inclusive, 479 specimens were tested. Microscopically, these specimens were classified into 9 positive, 470 negative. Mouse inoculations proved that all positives produced clinical paralytic rabies in mice, Negri bodies being demonstrated at autopsy. Of the 470 negatives, 50 (10.6 per cent) were positive by mouse.

Prior to July 1937, specimens from the Georgia Laboratory were tested by Dr. C. N. Leach, Rockefeller Foundation, Montgomery, Alabama. To date, the total specimens tested from Georgia is 869. These were classified microscopically as 726 negatives and 143 positives. Of the 726 negatives, 84 (11.57 per cent) have been positive by mouse inoculation. The 143 positive specimens have not failed in a single instance to produce symptoms in mice and have yielded Negri bodies in every case.

In addition to the confirmatory diagnosis in animals presenting symptoms of rabies but failing to present Negri bodies in brain smears, the mouse inoculation test is particularly valuable in those brains which are too badly decomposed or lacerated to afford a satisfactory microscopic evaluation.

It is apparent, therefore, that the mouse inoculation test as herein described is a valuable adjunct in obtaining reliable and rapid laboratory diagnosis of rabies in animals.

H. E. CARNES,
T. F. SELLERS, M.D.
E. J. SUNKES, D.P.H.

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*From the Laboratories of the Georgia Department of Public Health

WOMAN'S AUXILIARY: OFFICERS 1938-1939

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OUR PROGRAM: 1938-1939

At the recent joint meeting of the Executive Board of the Woman's Auxiliary to the MEDICAL ASSOCIATION OF GEORGIA, held with the Advisory Committee of the Association in Savannah, Mrs. Warren Coleman, Eastman, president of the Auxiliary, presented the program for the year 1938-39. The program, which was unanimously approved by the Board and the Advisory Committee, will have the following objectives:

1. To have each county president and district manager, upon taking office, secure an Advisory Committee, or Councilor, from her local medical society and be guided in all activities by them.

2. To familiarize each member with the aims and purposes of a medical auxiliary, and method of organization; to have each member know the names of county adviser, and chairman of State Advisory Committee; also, the names of county and State Auxiliary officers and chairmen.

3. To urge members to accept chairmanship of health and welfare in other organizations, or any office that will advance Auxiliary work.

4. To present the Health Education Program, outlined for us by the Medical Association of Georgia, to all lay organizations; the medical societies to appoint speakers; the Auxiliary to supply approved educational material. (This material to be obtained through the local health education chairman.)

5. To assist in entertainment at county, district and State medical meetings, and promote unity and friendliness at all times.

6. To urge each member to attend Auxiliary meetings regularly; to pay annual dues as soon as convenient and to invite all eligible women to become members.

7. To be informed on current legislative matters sponsored, or endorsed, by the MEDICAL ASSOCIATION OF GEORGIA, and acquaint others with them.

8. To increase subscriptions to Hygeia, the health magazine published by the American Medical Association.

9. To contribute to the Health Film Library and Student Loan Fund.

10. To observe "Doctor's Day," March 30th. On this day have programs honoring

the physicians who have dedicated their services to humanity.

11. To read, and contribute to the Auxiliary pages of the JOURNAL OF THE MEDICAL ASSOCIATION OF GEORGIA, and to send items of interest to county, district and State Scrapbook chairmen.

12. To insist that county presidents, and district managers send new, or corrected, copies of their constitution and by-laws to the President-elect, Mrs. Eustace A. Allen, 18 Collier Road, N. E., Atlanta.

13. To urge county presidents, and district managers, to appoint, in the beginning of the fiscal year, chairmen corresponding to State, Southern, and National Auxiliaries, if feasible; and that a list be sent the State president.

Organization
 Public Relations
 Scrapbook
 Health Film
 Doctor's Day
 Jane Todd Crawford Memorial
 Health Education
 Hygeia
 Legislation
 Research in Romance of Medicine

These efforts will result in the growth of our Auxiliary and will insure a year of service to the Medical Association of Georgia, which organization we seek to serve.

MRS. WARREN A. COLEMAN, *President.*

First District

Several splendid talks and the presence of the state president, the president-elect, as well as six past presidents, made the mid-summer meeting of the Woman's Auxiliary to the First District Medical Society an unusually interesting one. Mrs. A. J. Mooney, Statesboro, district president, presided.

Dr. Grady N. Coker, president of the Medical Association of Georgia, spoke on "Our Problems," being introduced by Dr. Lee Howard. He urged the members to build their own organization, increase interest in county and district societies, and emphasized that programs be made more educational. Dr. W. H. Myers, president-elect, spoke on "What Is Happening in the Practice of Medicine," stating that he believes the country is

on the eve of a complete change in medical practice, though he does not believe the public would vote for the change if given the opportunity.

Third District

The Woman's Auxiliary to the Third District Medical Society met at the home of Mrs. J. C. Wall in Eastman June 15, the District Manager, Mrs. Loren Gary, Jr., presided. The meeting was held in conjunction with the annual meeting of the doctors.

Mrs. W. F. Massey of Chester, gave the opening prayer, and Mrs. J. C. Wall of Eastman, president of the Dodge County Medical Auxiliary, made the address of welcome. Mrs. Charles Greer of Oglethorpe, responded. Mrs. Eustace Allen of Atlanta, president-elect of the State Medical Auxiliary, gave an excellent talk on "Organization."

Mrs. Warren A. Coleman, president of the Woman's Auxiliary to the Medical Association of Georgia, gave a most comprehensive talk on "Auxiliary Activities for 1938-39." Mrs. John Persall of McRae spoke on "The Jane Todd Crawford Memorial." Mrs. R. L. Cater, Perry, urged cooperation of the doctors' wives in the "Research in the Romance of Medicine."

Vocal solos were given by Rosser Smith, who sang "Until," "Because" and "Shortnin' Bread." Following the business meeting punch was served in Mrs. Wall's beautiful garden. Mrs. Wall was assisted in entertaining by her mother, Mrs. Mary Wooley, and daughter, Miss Mary Allen Wall, and Mrs. D. D. Smith.

Mesdames J. G. Williamson, Zeb Hargrove, R. T. Ragan, T. W. Nicholson and Archie Coffee, composing a committee from the Eastman Garden Club, escorted the visitors on a tour of Eastman's beautiful gardens, and to view the projects sponsored by Dodge county which aided the county in winning first prize in the recent Awards Competition sponsored by the Atlanta Constitution.

At the close of the tour, the guests assembled at the home of Mrs. Warren A. Coleman, where punch was served by Mrs. Clarence Rawlins, Mrs. Rosser Smith, Miss Mattie Persons, Mrs. M. H. Edwards and Miss Fannie Harris Edwards.

Open house was held at Coleman's Sanatorium and the Clinic, and after a visit to each, the women joined the doctors for a barbecue at the Community House as guests of Dodge County's Commissioner, Hon. W. D. McCranie.

Auxiliary members present were: Mrs. W. F. Massey, Chester; Mrs. Eustace Allen, Atlanta; Mrs. Chas. A. Greer, Oglethorpe; Mrs. R. L. Cater, Sr., Perry; Mrs. Loren Gary, Jr., Shellman; Mrs. S. L. Harp, Marshallville;

Mrs. W. G. Elliott, Cuthbert; Mrs. W. L. Storey, Ashburn; Mrs. Virgil Steele, San Antonio, Texas; Mrs. John Walker, Columbus; Mrs. H. C. Derrick, Oglethorpe; Mrs. B. B. Brooks, Montezuma; Mrs. John Persall, McRae; Mrs. Harold Atkinson, Macon; Mrs. J. C. Wall, Mrs. I. J. Parkerson, Mrs. H. M. Tolleson, Mrs. John L. Gallemore, Mrs. E. L. Smith, Mrs. Warren A. Coleman, Mrs. Harlow Peacock, Eastman.

MEDICAL AUXILIARY HEARS MRS. WOOTTEN AND MRS. J. R. S. MAYS

The Baldwin County Medical Auxiliary met with Mrs. L. P. Longino on Tuesday. Mrs. Charles H. Richardson, president, presided over the business session, during which time Mrs. J. R. S. Mays gave an interesting report on the district meeting at Sandersville.

The Year Books with program for 1938-1939 were given to each member. The book is dedicated to Mrs. H. D. Allen, Sr., who organized the Medical Auxiliary in April, 1928.

The outstanding work of the Auxiliary last year for getting the Health Magazine, "Hygeia" in every school in the county and in many homes, caused the Baldwin County Auxiliary to receive national recognition by being placed on the honor roll. The plan for the coming year is to continue the health program, beginning in the home.

Mrs. Stewart Wootten gave an interesting health talk.

Mrs. R. E. Butler, whose husband is doing home work in the county, was made an honorary member of the local organization.

Delicious refreshments were served by the hostess.

—*The Union-Recorder*, Milledgeville, Sept. 15, 1938.

NEWS ITEMS

THE MACON MEDICAL SOCIETY of Bibb County met at Ridley Hall on September 6. Dr. J. Allen Smith reported a case of *Gradenigo Symptom Complex*.

DR. O. H. CHEEK, Dublin, Laurens county commissioner of health, has announced a permanent plan for malaria control in Laurens county. "The program calls for assignment of a number of county convicts to do drainage work wherever it has not been done, and to maintain all drainage projects."—*Macon Telegraph*, Macon.

THE RANDOLPH COUNTY MEDICAL SOCIETY met at the Patterson Hospital, Cuthbert, September 1.

THE STAFF OF GRADY HOSPITAL, Atlanta, met on September 13. The scientific program consisted of reports of cases. Dr. T. P. Goodwin is president; Dr. C. E. Rushin is chairman of Program Committee.

THE SOUTHWEST GEORGIA PUBLIC HEALTH ASSOCIATION met at Radium Springs, Albany, September 8. Dr. Gordon T. Crozier, Valdosta, is president; Dr. M. A. Fort, Bainbridge, is secretary.

THE NINTH DISTRICT MEDICAL SOCIETY met at Toccoa, September 21. Titles on the program were: Address by Dr. Grady N. Coker, Canton, president of

the Association; *Present Day Problems*, Dr. C. L. Ayers, Toccoa, past president of the Medical Association of Georgia; *Hypothyroidism—A Factor in Pellagra in the Piedmont Section*, Dr. George Wilkinson, Greenville, S. C.; *The Glove Slap in Reconstructive Surgery of the Hand*, Dr. E. W. Grove, Gainesville; discussion led by Dr. W. B. Schaefer, Toccoa, second vice-president of the Association; *Stone in the Urinary Tract*, Dr. R. L. Rogers, Gainesville; discussion led by Dr. W. A. Selman, councilor of the Fifth District. Officers of the Society are: Dr. W. Bruce Schaefer, Toccoa, president; Dr. Ed W. Grove, Gainesville, vice-president; Dr. C. B. Lord, Jefferson, councilor; Dr. Pratt Cheek, Gainesville, secretary-treasurer.

THE NEW YORK POLYCLINIC MEDICAL SCHOOL AND HOSPITAL, New York City, announces the opening of the Urological Department in its new clinic building. The medical profession is cordially invited to inspect this department which is under the supervision of Drs. Joseph F. McCarthy, Daniel A. Sinclair, David Geiringer and Howard S. Jeck and their associates.

THE SECOND DISTRICT MEDICAL SOCIETY met at Bainbridge, October 14.

E. R. SQUIBB & SONS, New York City, announce the opening of the Squibb Institute for Medical Research at New Brunswick, N. J., October 11. Titles of addresses on the program of the opening exercises were: *Welcome*, by Mr. Carleton L. Palmer, president, E. R. Squibb & Sons; *The Squibb Institute for Medical Research*, Dr. John F. Anderson, vice-president and director of Biological Laboratories, Squibb & Sons; guest speakers were introduced by Dr. George A. Harrop; *Clinical Investigation*, Dr. Geo. R. Minot, director, Thorndyke Memorial Laboratory, Boston City Hospital and professor of medicine, Harvard University; *Industrial Laboratories and Clinical Research*, Dr. Russell M. Wilder, professor of medicine, Mayo Foundation, Rochester, Minn.; *Biology and Medicine in Cooperation*, Professor August Krogh, professor of animal physiology, University of Copenhagen, Denmark; *The Usefulness of Useless Knowledge*, Dr. Abraham Flexner, director, the Institute for Advanced Study, Princeton, N. J. Inspection of buildings and laboratories by guests.

THE SEVENTH DISTRICT MEDICAL SOCIETY met at Dalton on September 28. Titles of papers were: *Vaginal Drainage in Pelvic Inflammatory Disease*, by Dr. Ralph N. Johnson, Rome; discussion led by Dr. N. A. Funderburk, Trion, and Dr. S. B. Kitchens, LaFayette. *Recent Trends in the Treatment of Varicose Veins*, Dr. Murl M. Hagood, Marietta; discussion led by Dr. Lester Harbin, Rome, and Dr. J. J. Rodgers, Trion. *Address*, Dr. Grady N. Coker, Canton, President of the Association. *Diarrheas in Adults*, Dr. F. E. Marsh, Chattanooga, Tenn.; discussion led by Dr. Robert F. Norton, Rome, and Dr. F. L. Webb, Oglethorpe. *Abdominal Pregnancy*, Dr. J. H. Mull, Rome; discussion led by Dr. S. M. Howell, Cartersville, and Dr. D. G. Elder, Chickamauga. Committee on Arrangements were: Dr. Leo. G. Temples, Dr. H. L. Erwin and Dr.

G. L. Broaderick, all of Dalton. Officers of the Society are: Dr. Z. V. Johnston, Calhoun, president; Dr. J. L. Garrard, Rome, president-elect; Dr. John M. McGehee, Cedartown, secretary-treasurer.

DR. HARRY R. LIPTON, neurologist and psychiatrist with the U.S.P.H.S., at the United States Penitentiary Hospital, Atlanta, is doing postgraduate work in New York City. He will return to Atlanta, December 9.

THE GEORGIA INDUSTRIAL SURGEONS' ASSOCIATION will hold its first annual meeting at Sea Island Beach, near Brunswick, November 5. Officers of the Association are: Dr. C. F. Holton, Savannah, president; Dr. Robert L. Rhodes, Augusta, vice-president; Dr. John W. Simmons, Brunswick, secretary-treasurer.

THE THOMAS COUNTY MEDICAL SOCIETY met at the Archbold Memorial Hospital, Thomasville, September 21. The President, Dr. Roy A. Hill, presided. Dr. Helen W. Bellhouse was elected to membership. The scientific program consisted of titles of papers and reports of cases as follows: *Arsenical Poisoning—Report of Case*, by Dr. S. L. Cheshire, Thomasville; discussed by Dr. E. F. Wahl, Dr. C. K. Wall and Dr. Mary J. Erickson, all of Thomasville, and Dr. M. E. Groover, Quitman. *Duties of a Peditrician in a Community*, Dr. Helen W. Bellhouse, Thomasville; discussed by Dr. W. L. Wilkinson, Bainbridge; Dr. M. E. Groover, Quitman; Dr. I. A. Ferguson, Thomasville, and Dr. S. E. Sanchez, Barwick. *Report on the 1938 Southern Pediatric Seminar*, Dr. W. L. Wilkinson, Bainbridge; discussed by Dr. H. M. Moore, Dr. Mary J. Erickson, Dr. Helen W. Bellhouse, Dr. E. F. Wahl, and Dr. T. A. Futch, Jr., all of Thomasville, and Dr. M. A. Fort, Bainbridge. The following were appointed as an Entertainment Committee to make plans for the annual meeting to be held in December. Dinner was served at the hospital. Dr. Rudolph Bell, Thomasville, is the efficient secretary-treasurer.

THE STAFF MEETING of Emory University Hospital, Emory University, was held on October 3. Titles of case reports were: *Pneumococcic Peritonitis*, by Dr. W. W. Baxley; *Multiple Intestinal Fistulae*, Dr. L. W. Grove and Dr. Chas. Holloway; *Erythroblastosis of Newborn with Postmortem Findings*, Dr. T. I. Wiltingham, Dr. R. R. Kracke and Dr. F. P. Parker.

THE SECOND DISTRICT MEDICAL SOCIETY will meet at Bainbridge on October 14. Titles of papers on the scientific program were: *Hookworm—Its Economic and Medical Importance in Southwest Georgia*, by Dr. J. W. Mobley, Pelham; *Thyroids*, Dr. T. C. Davison, Atlanta; *Urology*, Dr. Earl Floyd, Atlanta; *Movies Demonstrating a Combined Tractor and Distractor*, Dr. Chas. H. Watt, Thomasville; *Relationship of Nasal Infection and Sinusitis with Infection of the Middle Ear*, Dr. W. P. Rhyne, Albany. Dr. C. K. Sharp, Arlington, is president, and Dr. J. C. Brim, Pelham, is secretary.

DR. B. H. MINCHEW and DR. B. E. COLLINS were hosts to the members of the Ware County Medical Society at dinner at the Ware Hotel, Waycross, on October 5. Dr. W. L. Pomeroy read a paper entitled *In-Between Measures in Gynecology*.

OBITUARY

Dr. Samuel M. Withers, Moultrie; Wake Forest College School of Medicine, Wake Forest, N. C., 1902; aged 62; died at his home on September 5, 1938. He practiced medicine at Chadburn, N. C., for thirteen years, then moved to Moultrie where he practiced until his death. Dr. Withers endeared himself to hundreds of friends and scarcely ever did he deny his services to those who were sick and needed attention, and then only when almost impossible for him to respond to their calls. Surviving him are his widow, two sons, W. B. Withers, Moultrie, and Dr. Sam Withers. Funeral services were conducted at the First Presbyterian church. Rev. M. A. MacDonald officiated. Burial was in the city cemetery.

Dr. William King Stillman, Jr., Atlanta; University of Tennessee College of Medicine, Memphis, Tenn., 1923; aged 40; died at his home on September 2, 1938. He was a native of Atlanta and received his literary education here. Dr. Stillman was a skilled surgeon and had served at various hospitals in the city. Surviving him are his father, widow, one son, William King Stillman, III; two daughters, Misses Anna Laura and Alma Leona Stillman. Funeral services were conducted at Peachtree Chapel. Rev. J. M. Harvey officiated. Burial was in Oakland cemetery.

Dr. Warren J. Hall, Oakfield; member; Emory University School of Medicine, Emory University, 1885; aged 84; died at his home on September 16, 1938. He had practiced medicine in Worth and adjoining counties for fifty years. Dr. Hall was a successful practitioner and was adored by hundreds of acquaintances. He was a member of the Worth County Medical Society and the Baptist church. Surviving him are two sons, A. J. and Aldrich Hall, both of Oakfield; five grandchildren, one brother and two sisters. Rev. D. W. Gilmer officiated at the funeral services conducted at the Oakfield Baptist church. Interment was in Oakfield cemetery.

Dr. John M. Caldwell, Augusta; University of Georgia School of Medicine, Augusta, 1897; aged 68; died at a private hospital in Augusta on September 16, 1938. He was a native of Abbeville, S. C. Dr. Caldwell was for many years on the faculty of the University of Georgia School of Medicine, and did private practice for many years until he was forced to retire on account of ill health. He was chairman of the Construction Committee which directed and supervised the building of the University Hospital in 1912. Served on the city council of Augusta for three terms. Dr. Caldwell was favorably known as a successful practitioner and a civic leader. Surviving him are his widow, two sons, Capt. J. M. Caldwell, Jr., Medical Corps, U. S. Canal Zone; Claude R. Caldwell, Augusta; one daughter, Mrs. Arnold Parker, Milledgeville.

Dr. Robert Alexander Simpson, Washington; member; Columbia University College of Physicians and Surgeons, New York, 1884; aged 79; died at his home on September 24, 1938. He was a native of Hancock county. His father and mother were natives of Wilkes county. Dr. Simpson attended private schools

in Hancock county until his mother died and then lived with his sister in Atlanta until his father married the second time; then moved to Washington. He graduated at the University of Georgia, Athens; later received an A.B. degree at the University of Virginia. After he graduated in medicine, he served an internship at Bellevue Hospital, New York City; then studied for two years in Berlin and Vienna before he returned to Washington to actively enter the private practice of medicine. Dr. Simpson was the dean of the Wilkes county physicians, held in high esteem by hundreds of acquaintances and loved by his fellow practitioners. Surviving him are three nephews, Dr. Robert G. Stephens and Judge Alexander Stephens, both of Atlanta, and W. G. Haynes, Darien; two nieces, Mrs. John C. Allen and Miss Mary Haynes, both of Atlanta. Dr. Samuel J. Cartledge officiated at the funeral services conducted at the residence. Interment was in the family vault in Resthaven cemetery.

RESOLUTION ON DEATH OF DR. IVY W. MOORMAN

On August 10, 1938, died suddenly of heart disease at his home near Douglas.

In his passing, we have lost one who has honored his profession for forty-one years. Dr. Moorman was honored and loved by all his patients. He was noted as the "obstetrician of Coffee county" because he placed his own life in jeopardy to take care of one and sometimes two deliveries in one night. While he knew of his illness and the dangers which his work increased, he went steadily forward and died, as he wished, in "harshness."

He was an active member of the Coffee County Medical Society and the Medical Association of Georgia for twenty years. His absence, his place at the society meetings, and his kind words at the hospital have left a keen sense of loss which cannot be replaced.

Dr. Moorman was born at Lovett, Georgia, October 21, 1868. He was a graduate of the University of Georgia School of Medicine, Augusta, April 4, 1897. He practiced medicine at Hazlehurst from 1897 to 1899, moved to Ambrose in Coffee county where he practiced continuously until 1918, then moved to Douglas where he practiced until his death.

He was married to Miss Elizabeth Vickers who with three daughters and five sons survive him.

BE IT RESOLVED: That the Coffee County Medical Society in this memorial to our colleague who was faithful to his and our profession, express our deep sense of loss, and that this resolution be placed in the minutes of our society, that copies be sent to the Medical Association of Georgia, local newspapers and his family.

Respectfully submitted,
T. H. CLARK, M.D.
J. G. CROVATT, M.D.
HENRY J. GOODWIN, M.D.,
Chairman.

The scientific session of the Academy of Physical Medicine will meet in Washington, D. C., Oct. 24-26, 1938.

THE SQUIBB INSTITUTE FOR MEDICAL RESEARCH

Organization of the Squibb Institute for Medical Research, in which a staff of scientists assembled from leading institutions of the United States and foreign countries will attack problems involved in the cure of disease and relief of pain, is announced by E. R. Squibb and Sons. The Institute will be housed in a new laboratory building just constructed at a cost of \$750,000 in New Brunswick, N. J., and described as "the finest of its type in the world."

Dedicated to pure science, the Institute, which will be in complete operation this Fall, is the first of its kind to be founded in the pharmaceutical industry. The aim, it was explained, is to create in the medical and biological fields an industry-supported research enterprise comparable to the Bell Telephone and General Electric laboratories in the sphere of physics.

Research activity, already under way, has been organized in four main divisions—experimental medicine, pharmacology, bacteriology and virus diseases, and organic chemistry. In addition, the Institute will operate a biochemical laboratory and a medicinal chemistry laboratory. The scientists will continue studies begun in the laboratories with which they were previously associated, and new lines of investigation will be opened up.

Dr. George A. Harrop, formerly associate professor of medicine in Johns Hopkins University and associate physician of Johns Hopkins Hospital, has been appointed director of research in direct charge of the Institute. Dr. Harrop will also head the Division of Experimental Medicine.

Dr. Harry B. van Dyke has been chosen head of the Division of Pharmacology. He comes to the Institute from Peiping Union Medical College in China, where he was professor and head of the department of pharmacology. He was also formerly a professor of pharmacology in the University of Chicago.

Associates in the Division of Pharmacology are Dr. Roy O. Greep, who has been an instructor in the biological division of Harvard University, and Dr. B. F. Chow, former associate professor in Peiping Union Medical College, and former member of the department of organic chemistry at Harvard University and at the Rockefeller Institute for Medical Research, New York City.

Dr. Geoffrey W. Rake, former research associate in the Connaught Laboratories of Toronto University, heads the Division of Bacteriology and Virus Diseases. Dr. Rake has also been on the staff of the Rockefeller Institute. Associates in this Division are Dr. Arthur E. O. Menzel, previously instructor in biological chemistry in the Columbia University School of Medicine, and Dr. Morris F. Shaffer, formerly assistant in the department of immunology of the School of Public Health of the Harvard University Medical School.

The head of the Division of Organic Chemistry will be Dr. Erhard Fernholz, formerly of the University of Goettingen and Princeton University, and more recently with the research laboratory of Merck and Company. Associates in this Division are Dr. Homer E. Stavely, formerly research fellow in the Sterling Chem-

istry Laboratory at Yale University, and Harold B. MacPhillamy, a graduate student in the organic chemistry department of Columbia University.

Dr. Hans Jensen, formerly of the Institute of Experimental Biology of the University of California, will be associate in charge of the biochemical laboratory. Dr. Jensen is a former assistant professor of pharmacology at Johns Hopkins, where he cooperated with the late Professor John Jacob Abel in purifying and crystallizing insulin. Dr. Sibylle Tolksdorf, who also has been engaged in research at the Institute of Experimental Biology of the University of California, will be assistant in the biochemical laboratory.

William A. Lott, formerly instructor in chemistry at Rutgers University, will be associate in charge of the Medicinal Chemistry Laboratory. Dr. F. H. Bergeim will be associate, and Dr. D. F. Menard, formerly research chemist at the General Aniline Works, will be assistant in the Medicinal Chemistry Laboratory.

To provide clinical facilities for the research staff, a plan of hospital affiliation is being worked out by the Division of Experimental Medicine. A free ward of fifteen or twenty beds will be maintained for the observation of patients in connection with various problems being studied at the Institute.

Under the direction of the Division of Experimental Medicine, new fellowships in medical schools will be established by the Institute for the study of cancer, syphilis, and hormones. Other fellowships now sponsored by Squibb and Sons will be continued as part of the Institute's program.

The mechanism of surgical shock is among the researches planned by this Division. The value of certain hormone preparations in the treatment of surgical shock is being tested. Another investigation aims to determine the value of vitamin K in checking hemorrhage after operations. Dr. Stefan Ansbacher, formerly research chemist with the Borden Company, has been named associate in the Division and assigned to the vitamin laboratory.

Research on measles, called the second greatest cause of infant mortality, is being undertaken by the Division of Bacteriology and Virus Diseases. The investigation is directed toward the discovery of a small animal susceptible to measles. The only animal now known to yield to the measles virus is the monkey. Since the monkey is expensive to obtain and to maintain, it is explained, investigation would be facilitated if the scientists were to succeed in finding a small animal like the mouse or guinea pig which is capable of contracting the disease.

The research workers hope to ascertain whether well persons can carry the measles virus in their throats. Dr. Rake and his colleagues are attempting to develop a measles serum that can be standardized to replace the now unstandardized serum. Dr. Rake has already inoculated many monkeys with the measles virus.

The Division of Organic Chemistry is carrying on research concerning the isolation, concentration, and chemical structure of vitamin K. Another study in progress under direction of Dr. Fernholz in collaboration with Dr. Archie Black deals with the isolation and purification of vitamin B₆, lack of which is related to

the occurrence of the chronic disease pellagra. Dr. Fernholz is also collaborating with Dr. Ansbacher on the filtrate factor of vitamin B complex. The Division's program also includes a theoretical investigation in the field of steroids.

The Division of Pharmacy, under Dr. van Dyke, is attempting to isolate and purify some of the hormones of the pituitary body. Dr. van Dyke describes the pituitary gland as the most interesting of the glands of internal secretions because it rules or coordinates the action of all other glands. For the present, the research concerns chiefly the anterior pituitary hormones, which maintain the ovaries and testes.

Another investigation proceeding in the Division of Pharmacology deals with new chemo-therapeutic compounds. This work is being done in collaboration with the Medicinal Chemistry Laboratory and the Division of Bacteriology and Virus Diseases. The Division of Pharmacology will also foster research in the field of synthetic medicinal remedies for the treatment of cardiovascular diseases.

The entire research program of the Institute, Dr. Harrop pointed out, was determined on the basis of intrinsic scientific interest.

DO YOU WISH TO APPEAR ON THE PROGRAM?

The American Medical Association will hold its meeting in St. Louis, beginning May 15, 1939, therefore our annual session will be held earlier than usual, probably the last week of April.

The preparation of a scientific paper takes time. No longer can one jot down a few notes and assemble them hurriedly for a creditable scientific paper. One must cull the literature and correlate in an orderly way the facts on the subject discussed, therefore it is not too early for our members who wish to appear on the program to send in their titles for papers.

THE MEDICAL ASSOCIATION OF GEORGIA consists of more than eighteen hundred members. There are thirty places on the program. Recently one of our members complained that he had waited twenty years to get on the program, and his complaint appeared to be justified until we divided thirty into eighteen hundred. If he had waited his turn to get on the program he would have been the first man on the list sixty years after he joined the Association.

Titles for papers should be sent to the Secretary's office at once.

INVITATION—MEETING SOUTHERN MEDICAL ASSOCIATION OKLAHOMA CITY

To all Physicians of the South:

The Oklahoma County Medical Society takes pride in the fact that on November 15th to 18th of this year it will act as host to the Southern Medical Association. This great meeting will be the culmination of dreams and desires which began many years ago and which have slowly come to pass through the growth of our city to a point of size and prominence which enables us properly to take care of such a large number of guests. From the beginning we have realized that in order to entertain six to eight thousand doctor friends, we must have sufficient hotel facilities and a sufficiently large auditorium to make the meeting both comfortable and instructive to all concerned. We are happy to say that we now possess both.

The new Municipal Auditorium is one of the most beautiful architectural creations which has been constructed during recent years. It is located close in to the downtown district and is surrounded by other buildings of the Civic Center group. Its main auditorium will seat seven thousand with great comfort. Its acoustic facilities are so excellent that those in the back seats can hear as well as those close up to the platform. Its Hall of Mirrors will accommodate twelve hundred. Its Little Theatre will seat five hundred; and it has twenty-four committee and conference rooms, each of which will accommodate audiences of fifty to four hundred, thus taking care of any number of sectional meetings which may be listed on the program. Under such conditions it will not be necessary for visiting physicians to go about from hotel to hotel or from church to theatre, scattering their energies walking from one section of the meeting to another.

Not only is our auditorium capable of handling the Southern Medical Association but we are happy to announce also that due to recent hotel construction, Oklahoma City now has enough hotel beds to take care of any convention. In 1935 only three southern cities had more hotel beds than Oklahoma City. Today there are only two, so that those physicians who plan to come and bring their families along with them will be able to find cool, comfortable quarters in which to rest while they are not attending the meeting.

Our local medical organization has been slowly welding itself into a unit of service during the past five or six years and is now trained to handle a large meeting. Through the successful management of the Oklahoma City Clinical Society sessions during the past seven or eight years, our members have learned the duties of hosts; they know how to take care of those who are away from home; they know how to run programs on time; they know also how to see to the successful correlation of social and scientific activities. The tentative plans for this year's program give assurance that it will offer a wealth of scientific papers and exhibits covering the whole field of medical practice. The entire first day will be presented by Oklahoma City members, and there will be in all more than six hundred papers and discussions in nineteen different fields.

Make your plans to be with us November 15th to 18th and you will learn that Oklahoma City is one of the most interesting places in the United States. Possibly the youngest large city, its phenomenal growth has been due to a large number of factors which other cities look upon with great interest if not almost with envy. Its early history was one of great romance, beginning with the run of 1889 and culminating with the finding of one of the world's largest oil fields underneath the soil which supports its residences and skyscrapers. A program of entertainment has been planned for your diversion, which will feature the various phases of Oklahoma City's history and which will show you what a splendid future is in store for those who make this their home. We feel perfectly sure that if you can find the time to leave your practice and come to Oklahoma City for the Southern Medical Association, you will always be glad you did so.

THE OKLAHOMA COUNTY MEDICAL SOCIETY.

WHAT EVERY WOMAN DOESN'T KNOW— HOW TO GIVE COD LIVER OIL

Some authorities recommend that cod liver oil be given in the morning and at bedtime when the stomach is empty, while others prefer to give it after meals in order not to retard gastric secretion. If the mother will place the very young baby on her lap and hold the child's mouth open by gently pressing the cheeks together between her thumb and fingers while she administers the oil, all of it will be taken. The infant

soon becomes accustomed to taking the oil without having its mouth held open. It is most important that the mother administer the oil in a matter-of-fact manner, without apology or expression of sympathy.

If given cold, cod liver oil has little taste, for the cold tends to paralyze momentarily the gustatory nerves. As any 'taste' is largely a metallic one from the silver or silverplated spoon (particularly if the plating is worn), a glass spoon has an advantage.

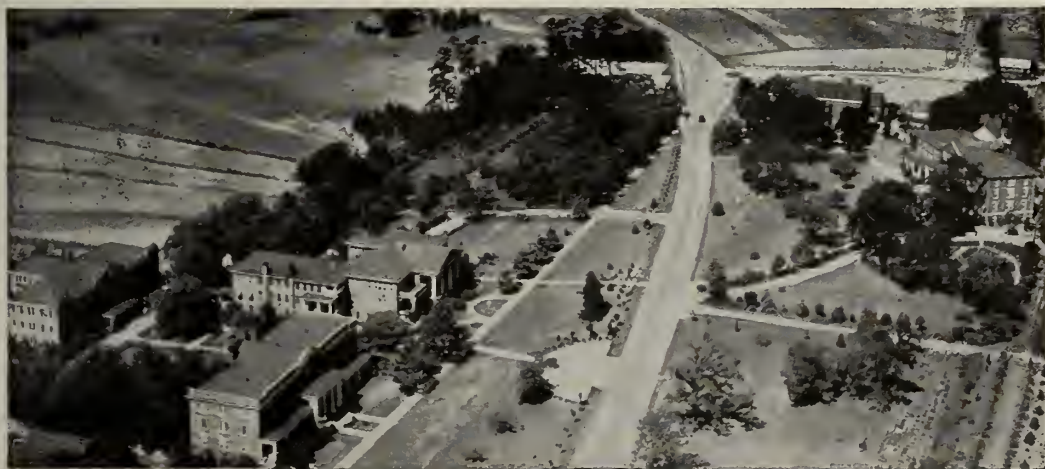
On account of its higher potency in Vitamins A and D, Mead's Cod Liver Oil Fortified With Percomorph Liver Oil may be given in one-third the ordinary cod liver oil dosage, and is particularly desirable in cases of fat intolerance.

ALTERED MECHANICS OF THE SUPPORTS OF THE FEMALE PERINEUM

In a paper by this title by B. T. Beasley, M.D., in *The Journal*, September 1938, pages 344-348, Fig. 1, Topography of the Perineal Region, page 345, the sentence in the legend reads, "The perineal body is indicated by the transverse supports." should read, "The perineal body is indicated by the X at the intersection of the transverse and sagittal supports." Also, one of the duplicated statements, "C, D, sagittal supports." should be omitted.

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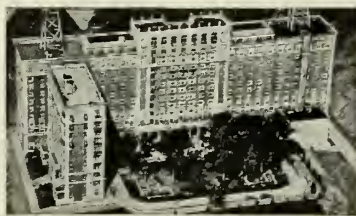
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THE MORTALITY AND TREATMENT OF LOBAR PNEUMONIA*

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Augusta

It is our purpose in this paper to discuss an analysis of 460 cases of primary lobar pneumonia admitted to the University Hospital during the past five years. These were all typical cases, as determined by physical signs and roentgenograms. This series includes ward and private patients, with the former predominating.

The general mortality for the entire series was 34 per cent. This compares favorably with the mortality rate of Bellevue Hospital, 35.8 per cent, and the Buffalo General Hospital, 37.8 per cent. All these hospitals are alike in that they receive a large number of indigent patients, comparatively late in the disease. This is in direct contrast to the mortality rate in the Rockefeller Institute, 19.5 per cent, where the patients are seen earlier in the disease and are of a higher social status.

Many factors influence the mortality in pneumonia, viz.: age, sex, race, season, virulence of organisms, and management of the case. The mortality is greatest in infants under 2 years of age and in adults after the age of 50. The mortality rate in patients over 50 with lobar pneumonia in our series was 73 per cent, from 2 years up to 20 years of age the pneumonias have been less fatal than those which occur later, when fatality increases with each decade. It is considered that pneumonia carries a higher mortality with females. Bullowa's¹ mortality in females was 30.6 per cent and in males 27.2 per cent; he believes this increase due to pneumonia oc-

curring during pregnancy which always darkens the prognosis. Our series showed a slightly higher mortality in males, 36.4 per cent—females, 33.6 per cent. It is frequently stated that the pneumonias of the late spring are more fatal than those of the other seasons, because the resistance of the population is diminished and the virulence of the organisms has been stepped up by human passage. We cannot determine whether the alleged lower mortality of pneumonias occurring in the summer and fall is due to difference in the seasonal prevalence of certain types or to seasonal difference in resistance and virulence. It is definitely known that the organisms which occur in long chains are less virulent than others of the same type; however, these organisms may lose their chaining in the blood and become highly virulent. We find that negroes are more susceptible to pneumonic infection; this is shown by the fact that there were 39 more colored cases admitted out of a total population of 2 colored to 7 white in our community. The colored mortality was 38 per cent and the white mortality 26 per cent. Early treatment and better social conditions of the white patients may explain some of this difference in racial mortality.

The mortality rate is definitely higher in bacteremic cases. We find a 79 per cent mortality in cases with positive blood cultures. Factors which contribute to bacteremia are lack of resistance on the part of the patient and the nature and virulence of the organisms, the bacteremic incidence is greatest at the extremes of life, and factors such as fatigue, drugs, trauma, alcohol and diet appear to contribute toward this condition.

It is not our purpose to attempt to discuss the various methods of treating pneumonia, as we all are apt to have our own pet

*Read before the Medical Association of Georgia, Augusta, April 27, 1938.

ideas and remedies for this disease. Our experience with x-ray, quinine and its derivatives, and pneumothorax has been so limited that we have not included it in this discussion. The usual symptomatic treatment, including fluids, intravenous glucose, oxygen and sedatives were used in all cases when deemed necessary.

With the advent of specific serums the treatment of pneumonia has undergone revolutionary changes. The use of this therapeutic tool is attended with marked success, but like any tool it must be thoroughly understood and properly handled. It is generally recognized that if serum is going to be advantageous it must be administered early and in sufficient quantities. Too much stress cannot be placed on the early typing of the pneumococcus and the administration of the type specific serum, as we now have available serum for Types I, II, III, IV, V, VI, VII, VIII, XIV, XVIII, and XIX.

The mortality for cases of pneumonia treated with serum increases progressively with the day treatment is begun. It is necessary to increase the amount of serum given with each day of illness and the calculated dosage is multiplied by two if a positive blood culture is obtained. If this fails to clear the blood stream more serum should be given. Other things that demand an increase of serum are marked toxicity or prostration, delirium, high pulse rate, undue cyanosis, heart failure, delirium tremens, a large spreading area of consolidation and pregnancy.

Our method of administering serum is as follows: the patient is first given 1:1000 dilution intradermal test for sensitivity and 20 minutes is allowed for the appearance of a reaction. We use the accepted method of administration—the intravenous route. Our first dose is 20,000 units, diluted in 30 to 50 cc. of normal saline. This method facilitates the control of the speed of injection. We take five minutes to give the first 5 cc. of diluted serum and the entire amount should take 20 minutes to be given. Twenty thousand units is repeated every two hours, the same technic being used, until the desired amount has been administered. When the temperature becomes within one degree of normal another

20,000 units is injected intramuscularly. This we believe avoids the secondary rise in temperature. By this method we have reduced our mortality to 25 per cent in Type I pneumonia. The Rockefeller Institute now administers the required amount in one dose and Type I pneumonias usually receive from 60,000 to 100,000 units at one injection. They find this method more successful than administering the serum in broken doses. In our series we had one death which we believed was due directly to serum therapy; the patient developed acute pulmonary edema following the administration of serum and succumbed some four hours later.

A few words should be said concerning sulfanilamide. We have used this drug since December, 1937, on pneumonia cases which were not Type I. In all, we have treated 39 cases with a mortality rate of 10.1 per cent. This drug was given in doses varying from 60 to 90 grains daily. At this time we cannot give any definite data on the status of sulfanilamide but we intend to continue the use of this drug when serum is not available and hope for the same excellent results.

By implanting pneumococci suspended in a starch-broth paste into the terminal air sacs O. H. ROBERTSON, Chicago (*Journal A. M. A.*, Oct. 15, 1938), produced in the dog a lobar pneumonia which closely resembles that which occurs in the human being. The pneumococci are dispersed from the locus of implantation principally by the edematous fluid of the early lesion, which spreads peripherally through the contiguous air passages and the pores of Cohn. The evolution of the inflammatory lesion of the canine disease is essentially the same as that observed in human lobar pneumonia. At the time of recovery a striking histologic change occurs in the pulmonary lesions of both man and the dog. This consists in the transformation of certain of the fixed tissue cells into free macrophages which engulf and destroy the pneumococci much more effectively than do the polymorphonuclear leukocytes. The macrophages are dependent on opsonins for their antipneumococcic activity. The mechanism of recovery appears to be of dual nature, consisting of a generalized process, which acts to localize the infection and prevent or control bacteremia, and a local process, the macrophage reaction, whereby the lung is enabled to rid itself of the invading micro-organisms. If both processes are effective, recovery results. If either one fails, death ensues. One attack of experimental pneumonia confers an increased resistance to subsequent infection which lasts for many months. The basis of such immunity seems to reside in the greatly accelerated macrophage reaction characterizing the recurrent lesions. After recovery a high degree of local immunity can be demonstrated in the involved lobes; it persists only as long as the macrophages are present in the alveoli. However, the duration of the local immunity is greatly prolonged by repeated infection in the same locus. Under such circumstances a residual mobilization of macrophages is observed in the tissues of the lung.

SERUM TREATMENT OF PNEUMOCOCCUS PNEUMONIA*

T. L. ROSS, M.D.
Macon

In an effort to cover in a few moments the subject of the serum therapy of pneumococcus pneumonia, I shall obviously be able to invite your attention only to the more salient features of the program. I am indebted to Dr. Edward F. Roberts of the Scientific Staff of Lederle Laboratories for the use of several lantern slides which will be presented.

The importance of serum therapy is brought home to us when we realize that of the 3,803 persons who died with pneumonia in Georgia in 1936, 20 per cent or 760 people could be living today if they had received early and adequate serum treatment.

In a survey of the literature the pneumococcus is given as the etiologic agent in 96 per cent of cases of lobar pneumonia. Group IV of our old classification of Types I, II, III and IV was found to contain twenty-nine fixed types by Cooper and her associates in 1932. This is important because it brought to many more cases the advantage of specific serum therapy. Seventy-seven per cent of all cases of pneumococcus pneumonias can now be treated with serum.

Inasmuch as it is impossible to determine the type of pneumococcus by clinical examination alone, the sputum expectorated directly from the lung into a clean container should be forwarded to the laboratory as quickly as possible. No antiseptic should be added since living organisms are necessary for the test.

Sabin's modification of the Neufeld capsular swelling reaction is the most important recent contribution to the serum treatment of pneumonia. It enables a rapid determination of the type of invading organism direct from the sputum and saves many hours over the old mouse injection method. If, however, no sputum is obtainable and throat swabs are used, it is necessary to inject this material after incubation into the peritoneal cavity of a mouse, then type in a few hours with the Neufeld method.

To a small fleck of sputum on a slide is added a loopful of undiluted rabbit-typing serum. This is covered with a cover slip and immediately examined under the microscope. In the presence of homologous serum a positive reaction is indicated by the appearance of definitely outlined and sharply defined swollen capsules about the pneumococci present in the sputum. Positive reaction appears in a few minutes, if there is no immediate reaction the preparation should be examined again at the end of thirty minutes.

Commercial therapeutic serums are available for Types I, II, III, IV, V, VI, VII, VIII and XIV so that for practical purposes it is most important to type for these.

In addition to typing of the sputum (I quote from Bullowa's book): "Every patient suspected of pneumonia should, when first seen, have a blood culture taken on a medium suitable for good pneumococcus growth. . . . Blood cultures should be repeated daily in very ill patients when there is elevated temperature or when the temperature rises after a partial fall. . . . The presence of bacteremia cannot be surmised from the extent of the pulmonary lesion nor can it be predicted from the character of the disease at the onset or later." Blood cultures also offer the most reliable check on correct typing of the sputum, in differentiating between a mixed infection, and in the prognosis in any case.

And now as to treatment. Any patient with lobar pneumonia must always be considered seriously ill. Though apparently a mild infection at outset it may rapidly spread and change to a situation of great gravity. It is essential therefore that no time be lost and that all cases be treated at the earliest possible moment. It is understood that all other accepted adjuncts are used in addition to serum.

After determining the type of pneumococcus to which the infection is due and obtaining the type-specific serum we must determine if the patient is serum-sensitive. Two precautions are absolutely necessary in every patient: First, careful questioning as to any previous allergic manifestation or even family history of asthma; secondly, testing for sensitivity to horse or rabbit serum by means of the conjunctival or skin test or both. A posi-

*Read before the Medical Association of Georgia, Augusta, April 27, 1938.

tive finding in any instance necessitates reflection. Serum has been given even in the face of severe positive reactions without ill effects. Bullowa says, "The chance of a severe reaction is 1 in 300, while the chance of death from pneumonia without serum is 1 in 4 for Type I and 1 in 2.5 for Type II, except in the youngest age groups."

Always have a syringe of epinephrine at hand when giving any serum. One-half to one cc. should be given at once if serum reaction occurs. Reaction may often be obviated by giving 5 to 15 minims of a 1:1000 adrenalin chloride solution subcutaneously, exactly six minutes before the serum is administered.

The following criterion has been adopted as a minimum dosage schedule for the various types when given before the fourth day: Type I, 60 to 80,000 units; Type II, 150,000 units; Type III, 120,000 units; and Types VII, VIII and XIV, 100,000 units each.

This schedule is usually doubled if treatment is begun after the third day, in patients over 4 years of age, in pregnancy and the puerperium, with multiple lobe involvement, with low white blood count and, most important of all, in the presence of a positive blood stream infection.

The first or test dose is usually 10,000 units and should not exceed 20,000 units. It is given intravenously at body temperature, not overheated, and a full five minutes should be devoted to administration of the first cc. The remainder may be given much more rapidly but always carefully. Wait one hour for the appearance of any reaction and the remainder of the required dosage may be given in one injection; even if as much as 100,000 units.

Some prefer to proceed more slowly and give 40,000 to 80,000 units at each injection at two hour intervals. However, the total dosage should be given in two to four hours.

Most of the foregoing applies more specifically to horse serum. In recent months, however, the use of rabbit serum for treatment is being rapidly developed. It has several advantages: (1) it can be given to patients sensitive to horse serum, (2) the rabbit will produce antibodies for many of the

higher types not available in horse serum, and (3) the rabbit can be immunized much more rapidly than the horse. The unit basis of the two is the same. It would seem from a small series of cases reported by Horsfall, Goodner and McLeod, in 1937 that, because of the smaller size of the antibody, protection ensues more rapidly than with horse serum. The average time of disappearance of acute symptoms was 27 hours but in 18 cases crisis occurred within 8 hours after beginning treatment.

Neither serum should be diluted. They have been highly concentrated and purified and if properly given should not produce reaction. In the majority of cases so treated a rather striking improvement is noted in 8 to 12 hours. This is manifested by a drop in temperature and pulse rate, which may be accompanied by moderate sweating. Breathing usually becomes less labored, and the pain, although still present, is usually diminished. The toxemia is rapidly lessened and bacteremia usually disappears or fails to occur.

In moderately severe cases further doses should be given if the temperature fails to fall below 102 within eighteen hours of the beginning of treatment. Certain patients after showing no beneficial effects after the usual dosage, will show rapid improvement after further serum is given.

The brilliant results achieved by the use of type-specific antipneumococcic serum prove its value even in inexperienced hands and outside of large clinics. The crucial test of the management of any disease lies in the reduction of mortality rates and of the length of illness. Serum accomplishes this by producing a rapid crisis by limiting the extent of lung invasion, thus decreasing the obvious cardiac strain, and by preventing blood stream invasion with its resulting complications.

These figures include treatment up to the fifth day and are largely derived from the report on the Massachusetts Pneumonia study by Lord and Heffron and published by the Commonwealth Fund.

| | |
|--------------------------|--------|
| Type I Non-serum treated | 36.3 % |
| 1 Serum | 11.85 |
| 2 Non serum | 42.9 |
| 2 Serum | 22.4 |
| 5 Non serum | 32.6 |

| | | |
|----|-----------|-------|
| 5 | Serum | 16.2 |
| 7 | Non serum | 24.5 |
| 7 | Serum | 13.00 |
| 8 | Non serum | 24.0 |
| 8 | Serum | 9.8 |
| 14 | Non serum | 36.7 |
| 14 | Serum | 29.6 |

Of the higher types from IV through XIX the non-serum deaths were 25 per cent and 7.6 per cent with serum.

Failures are due to inadequate dosage, to the total dosage being too divided, to failure to recognize bacteremia, to purulent complications, and to bacteriologic errors.

Serum has no effect on purulent infection unless it is given directly into the area or space as in meningitis or a pyogenic joint. Serum does not penetrate the pleura. Serum will prevent the development of empyema chiefly in that it will prevent bacteremia. In one large series of cases purulent complications appeared in 14 per cent of the treated cases and 73 per cent of the non-serum treated.

The reduction in mortality and the induction of early crisis in cases of lobar pneumonia may be attained only when cases of the proper type are treated early. This means that physicians must make every effort to obtain an etiologic diagnosis as to type in all suspected pneumococcus pneumonias. To wait for the physical signs of consolidation to appear means loss of valuable time. It means that an appreciable number of patients either will receive serum too late to be effective or will be completely denied the benefits of a therapeutic agent of proven value in saving life or in curtailing the acute disease.

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THE SURGICAL TREATMENT OF EMPYEMA*

CHAS. H. RICHARDSON, M.D.
Macon

Any symposium on pneumonia would be incomplete without a discussion of one of its frequent complications, namely, empyema. Because it is a complication, rather than the primary disease, the surgeon does not have the opportunity to observe its development, but usually deals with the end result, and is often at a disadvantage in the selection of the method of treatment which is best adapted to the individual case.

And since the outcome of a case of empyema depends so much upon the choice of the proper method of treatment in each case and since this choice must be based upon definite knowledge of the physical findings, the type of infection, and the clinical course of the primary disease, it will be readily seen how intimate the relationship of internist and surgeon becomes in the successful handling of this serious condition.

With these thoughts in mind it may be well to discuss briefly the different types of empyema with their bacteriologic and pathologic findings and clinical pictures, and then see if we can suggest the most intelligent form of treatment for each type.

There are three types of empyema; the first is that which follows lobar pneumonia. It is pneumococcal in type, always purulent, and is essentially localized by pleural adhesions. It is the most frequent type seen in adults, and develops slowly, usually after a remission in temperature. As the entire surface of a lobe of the lung is involved by the pneumonic process, a considerable amount of fibrin is laid down with a serous effusion which tends to form adhesions between the parietal and visceral pleura. The pus is thick, yellow, and creamy and, as it develops slowly, not only affords nature an opportunity to localize it with firm adhesions, but the general inflammatory process has time to thicken and stabilize the structures of the mediastinum, and prevent the transfer of unusual and dangerous pressure to the opposite chest.

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The American College of Surgeons will hold its twenty-third annual session at the Municipal Auditorium, New Orleans, Louisiana, March 27-31, 1939. Dr. William J. Kerr, San Francisco, is president and will have charge of the program of general scientific sessions. Dr. John H. Musser, New Orleans, has been appointed general chairman of the session and will be in charge of the program of clinics and demonstrations in the hospitals and medical schools.

This is usually the more favorable type of empyema and the simplest and safest to treat.

The second type of empyema is associated with bronchopneumonia, and arises during the continuance of the active infection in the lung. It is not localized by adhesions, and is usually due to the streptococcus. It is the most frequent type of empyema seen in children, often following a pneumonia associated with the acute infectious diseases of childhood such as measles. In adults it is the type of empyema usually associated with influenza pneumonia, and which caused such havoc in the army camps of the World War. It is the result of the infection of the bronchioles with large numbers of hemolytic streptococci, and through them transferred to the adjacent pulmonary tissue. This results in a patchy atelectasis with the formation of firm nodules of consolidation about the terminal portions of the bronchi. The general involvement of the tissues lying under the pleural surfaces causes copious exudation into the pleural cavities, and large collections of cloudy fluid are found early. It is seen that the empyema occurs simultaneously with the pneumonia, it develops more rapidly, there is little fibrin deposited, hence nature has little time to develop limiting adhesions, and the pus is seropurulent, later becoming thicker and greenish in color. It is in this type also that nature has insufficient time to stabilize the structures of the mediastinum, and an open pneumothorax may allow the lung to collapse, a shift of the mediastinum may occur, and with the toxemia of the pneumonia still present cause too great a load upon the respiratory and circulatory mechanisms. These patients are usually desperately sick and it is only through the most careful selection of operative approach, and with the most painstaking care can they be successfully piloted through this dangerous condition.

The third type of empyema is that group of fetid pleural effusions which are associated with lung abscess or bronchiectasis and which are due to various organisms. These cases are rare, and time will not permit of any elaborate discussion of them.

The diagnosis of empyema is made by means of the physical signs, which may be misleading, the x-ray picture and the aspirat-

ing needle, the last of which is the absolute test. Much information can be secured by the examination of the fluid exudate obtained from diagnostic puncture. In the early stages of streptococcus infection the pus is thin and watery, greenish or brownish in color, and does not show fibrin flakes. Microscopic examination shows polymorphonuclear leukocytes and streptococci. The pus from pneumococcus empyema is thick and yellow, fibrin masses are present, and pneumococci are found in large numbers. Anerobic infections are characterized by dark foul smelling pus containing particles of necrotic tissue.

The prognosis of empyema depends largely upon the age and general condition of the patient, the type of infection, and the type of underlying pneumonia; but it has been shown that it may be enormously influenced by the type of treatment employed, and the surgical judgment exhibited especially in streptococcus bronchopneumonia and empyema.

The highest mortality rate has been experienced in infants under 2 years of age, and in adults between 40 and 50 years, and the lowest mortality in children from 5 to 10 years. The mortality in pneumococcus infection was 9 per cent, while in streptococcus infection it was 20 per cent. These figures are from the Cincinnati General Hospital.

There are two objectives in the treatment of empyema. The first is the establishment of adequate drainage; the second is the obliteration of the cavity.

However, the treatment of empyema cannot be intelligently carried out unless certain considerations are constantly borne in mind which are based upon the physiology of respiration. It has been clearly shown in experimental work that the mediastinum is not a fixed structure which divides the chest into two separate partitions, but that rather it is an unstable and flexible structure which swings easily from side to side, this being especially true in infants and children. It has also been shown that pressure changes which occur in one side of the chest are quickly reflected in the other, and thus it may be easily seen how an open pneumothorax may embarrass respiration by a shift of the mediastinal structures and encroachment on the

capacity of the good lung. In other words, a patient very ill following a widespread pneumonia may be laboring under respiratory difficulties as heavy as he can bear, and any further burden may be enough to turn the scale against him.

With these facts before us let us attempt to apply these principles to the treatment of the main types of empyema.

In pneumococcus empyema we will remember that inflammatory adhesions occur earlier at the site of the local effusion, and also tend to stabilize the mediastinum. The patient is usually over his pneumonia, and his general condition is at least fair. What he needs is adequate drainage and this may be accomplished by the open or closed method, with rib resection and a drainage tube in the former, or the introduction of a rubber tube through a trocar with or without rib resection, and the drainage allowed to flow out under water in a bottle on the floor. A majority of surgeons prefer the latter method if the fibrin flakes are not too thick to allow adequate drainage, as it avoids an open pneumothorax, does away with frequent messy dressings, and allows irrigation of the cavity, if a bronchial fistula is not present. Equally good results are obtained by each method. When open drainage is used, it must be done only after adhesions of the parietal and visceral pleura exist. Adequate drainage must be maintained as the wound will soon fall together unless attempt is made to keep it open until the lung expands and obliterates the cavity. Thus it is evident that the drainage tube should not be removed too early.

In cases of streptococcus infection, on the other hand, the pneumonia is bronchial in type with widely scattered areas of consolidation. A serous or seropurulent effusion develops early in the course of the pneumonia, and the layers of the pleura are held apart by the effusion and adhesions form late. In the presence of this severe toxemia and widespread pneumonia and greatly diminished respiratory capacity, an open pneumothorax may allow the lung to collapse, the mediastinum to shift, interfere with the venous return to the heart and result in instant death.

The more serious the condition of the patient the less urgent is drainage. Temporary

relief can be obtained by aspiration of the pus and replacement with an equal amount of air. This can be repeated a number of times at intervals of several days until the patient's condition warrants drainage. It may be said that to use aspiration as a method to establish adequate drainage will lead to many disappointments.

This should be followed by closed drainage, and slight suction is employed by the following method: an infusion bottle containing saline with a Murphy drip bulb is connected by means of rubber tubing to a glass Y tube. One arm of the Y tube connects with the drainage tube into the chest, the other with the rubber tubing to the bottle containing water on the floor. The continuous drip of saline exerts suction on the drainage tube and by clamping off the waste tube the chest can be irrigated at will. Irrigation of the cavity with saline or chlorine solution helps to control the infection and wash out the fibrin, thus giving the lung a chance to expand and hastens the obliteration of the cavity. It is not always possible to continue this method, and open drainage may have to be instituted, but this is done late when marked general improvement has taken place and nature has walled off the cavity.

Conclusions

An attempt has been made to classify empyema on the basis of the underlying pathology, and to show that the best method of treatment for the individual case must be based upon this.

Attention has been called to certain physiologic considerations which must be constantly borne in mind in its treatment. This approach seems advisable rather than to emphasize any one form of treatment. To adapt the treatment to the patient rather than the patient to the treatment would appear to be a rational viewpoint.

DISCUSSION ON SYMPOSIUM ON PNEUMONIA BY DOCTORS GRAY, ROSS, ROBERTS AND RICHARDSON

Dr. J. A. Redfearn (Albany): These are most interesting papers. I am not going to attempt to discuss all of them by any means, but just emphasize a few points that were brought out. I certainly welcome the coming of the specific sera in treating pneumonia, because all my professional life I have felt that what I did toward treating pneumonia was not of much value, even when some of the patients got well. The giving

of a specific serum. in my limited experience, has proved most satisfactory. You have heard hundreds of cases reported, you can look in the literature and find hundreds and hundreds more, and all writers agree that there is considerable reduction in mortality by the use of the specific sera.

There is very little in the literature that I can find on sulfanilamide in the treatment of pneumonia. I was glad to hear the fact mentioned that so far 39 patients have been treated in the Augusta Hospital with only ten deaths. Two cases that I had typed during the past winter at the State Branch Laboratory in Albany were Types X and V, and serum was not available at that time in Albany for Type V, so I tried sulfanilamide and at the end of three days both patients had a normal temperature and made uneventful recoveries. I don't know whether the sulfanilamide did it or not. I had one patient in whom I used specific serum that made a spontaneous recovery after 10,000 units were given in the evening; by morning the temperature was normal, where it remained. Clinically I considered it pneumonia. It was typed as Type VII, and I think it was pneumonia, but pneumonia may be cured by nature, I suppose.

As to the dosage, I believe it is recommended that the first dose be 10,000 units and in an hour or so 20,000 or more, and so on. It is generally considered advisable to make the skin tests before giving the dose, but that isn't always feasible, as shown in this case that received the 10,000 units. She was a very superstitious Negro woman, a cook in the home of one of our leading attorneys who said he was ready to do anything to help her. It was Type VII. I explained the use of the serum and she began to cry and so did her sister. She said, "Doctor, we don't want our sister to have a shot because we just know it will kill her." I finally persuaded her to let us try a little bit. I didn't know anything to do but to go ahead and give 10,000 units, and I did while the patient screamed and her sister shrieked, and that was the spontaneous recovery.

Dr. Roberts brought out many interesting points. I just want to touch for a moment on treatment. I was very glad to hear him say that he thought oxygen was of more importance than digitalis. Digitalis is one of the best drugs we have in certain types of heart conditions, but it is often abused. I believe that intravenous glucose is also of great value, and finally, I think we must admit that pneumonia is a public health problem. If diphtheria is a public health problem, certainly pneumonia is. That was not brought out, so I will not take up time discussing this point. The expense of the serum is still enormous, though only about one-third of what it was, maybe \$40 to \$60 now for a case, but who has \$40 or \$60? It seems to me that ultimately there must be provided in Georgia, as has been done already in some of the other states, free sera for our indigent patients.

Dr. Stewart D. Brown (Royston): I haven't had a great deal of experience in treating pneumonia. I have had practically none with the serum treatment.

I certainly enjoyed Dr. Richardson's discussion on

empyema. He covered the subject most thoroughly. In my early years I did most of my surgery in private homes. I was called on quite often to treat empyema, and while I haven't the figures to state exactly the number of cases, I am sure that in twenty-eight years I have done well over 300 cases of empyema. I can recall only four deaths in that group of cases. Personally I don't want to disagree with Dr. Richardson, but in my method of operating in private homes in the beginning it was impossible to carry out the closed method of drainage. The fact of the business is that I am one of those doctors who believe in drainage and open drainage in any kind of infection in an enclosed cavity of the body.

I was at a medical meeting not long ago at which the chief speaker was a urologist, and after he had finished his discourse he threw the meeting open to questions. One doctor asked him what in his experience he had found was the salient factor in dealing with urologic conditions, and he promptly said drainage. It is true in any infection anywhere in the body, in the gallbladder, the abdomen, or the chest cavity, or any other cavity of the body. "The fact is that the majority of all empyemas are of the pneumococcus type, and in that type the disease doesn't come on in the early stages of the pneumonia, but on the heels of it, and usually after the patient has gotten well of the pneumonia process, the temperature becomes normal, and ten or twelve days later the patient begins a low-grade temperature, and then in another week or ten days there is a frank accumulation of pus. In that way the adhesions have had time to form, and in that type of case, which is 90 or 95 per cent of them, there is not that likelihood of the mediastinum being so flexible, nor is there a likelihood of collapse of the lungs and heart failure with open drainage. In the cases that I have operated on I have practically in all instances used the open drainage method.

In the diplococcus type, or that following bronchopneumonia, I saw a great deal of those empyemas treated; in fact they all follow the "flu" or most of them are complicated with "flu," and during my service in the Army when I visited the wards, all the tubes and all the bottles were hung up in every conceivable manner, but I noticed that very few if any of those patients ever got well, and that very fact led me to believe that after all the open method was just as good if not better.

I would like to commend what Dr. Richardson has said, and at the same time I suggest after the diagnosis has been established and every method used to localize the pus, you find the most dependent part, resect enough rib to relieve the patient of the entire accumulation of pus and rid the cavity of all its fibrin, close the cavity with a nice tube, clamp the tube to prevent an influx of air, a sucking wound, as you might term it, until the lung and mediastinum has time to stabilize itself, and use the old-fashioned open method.

Dr. J. Reid Broderick (Savannah): I have been thinking how pleased Dr. Osler would have been to hear this highly scientific and able discussion or symposium on pneumonia, an effort to drag it down from

captain of the men of death. as he termed it, to an average private.

The late Thomas McRae used to say, as Dr. Roberts brought out this afternoon, that the patient in the average hospital got plenty of food but not enough water, and if he had his way, he would put a pitcher of water at every patient's bedside and see that it was kept filled.

Regarding sulfanilamide, I think we should use it with great cautiousness, as these gentlemen have done, and only in hospitals under very close supervision. It is possible that it may be of use in pneumonia.

A word about serum therapy. As Dr. Ross has brought out, at the Rockefeller Institute it is used in one large, massive, single dose, while other workers are prone to use it in small repeated doses.

I wonder if the question of a developed sensitivity in these cases to this serum may not be the reason, or one of the reasons, for the Rockefeller Institute is using it in a single large dose. After the serum has been once used, even though the patient has been tested for sensitivity beforehand, before the dose is repeated the patient should receive subsequent tests for sensitivity, because I believe in that time he may possibly develop a sensitivity to it with marked anaphylactic reaction and death.

I would just in passing mention a booklet recently published by Frederick Lord of Boston, which is sold at a very trivial cost, which covers the question of serum therapy in a most adequate way.

Dr. M. A. Fort (Bainbridge): It might be a little amusing to you to have a man who hasn't treated a case of pneumonia since 1920 to try to talk to you about it. I was afraid you were going to get through the discussion, though, without mentioning the thing that is killing most of the people. Down in our county I have a little laboratory that I use to do simple tests for the doctors, and recently I was written to by a laboratory which said, "There are dozens of people dying now with pneumonia simply because the type isn't known. Run up here and let us practice you a little with this typing and I think you will be of some service."

I sent out some circular letters over the county to ask the doctors if they wanted me to do this, because I had just about as much as I could possibly do and didn't want to fool with it unless they wanted it, and the first doctor who came to me said, "There are 24,000 people in this county. A little over half of them are Negroes. How much can the Negroes pay? Nothing. They can't pay for this. How much can the white people pay? There are comparatively few of them who can pay \$75. Now if you type these cases for me, and I feel that the serum is the only thing likely to save them, and they have no money to pay for it, what are we going to do? If they cannot pay for it, we have got to let them die, or pay for it ourselves. The county will not pay for it, the patient can't pay for it so we must let them die or pay for it ourselves. Twenty cases a year is not unusual, and you know that most of us cannot stand that. What can we

do about it?" And I had to answer, "I don't know what you can do about it."

I just wanted to say that what is killing so many pneumonia patients is the lack of the almighty dollar. Comparatively few people can pay for the serum.

Dr. C. Thompson (Millen): This symposium has been highly interesting and scientific, and the participants are entitled to a big hand. My discussion will be directed to the heart and particularly the circulation in pneumonia.

In pneumonia or in any severe infection, are we dealing with heart failure or are we dealing with circulatory failure? As far back as 1899 Romberg and his associates demonstrated that in severe bacterial infection, even fatal infection from the diphtheria bacillus, the pneumococcus and the streptococcus, the animal did not die of heart failure. This has been repeatedly proven by subsequent investigators. When the body is invaded by bacteria and a diseased process begins, they liberate toxins which are histamine-like substances. The greater the disease process the more of these toxic substances are liberated into the circulation. Dale and his collaborators showed that histamine in small doses produces the same effects in the animal as the histamine-like substances from bacterial infection, and that in larger doses histamine produces the same physiologic and pathologic effects in the animal as a more severe bacterial infection.

What are the textbook signs and symptoms of the failing heart in infectious diseases? As soon as the patient becomes ill from infection with bacteria the histamine-like substances begin to be liberated into the circulation, the metabolism is increased, the heart beats faster, the temperature rises, the respiration increases and there is a greater demand for oxygen to carry on the increased oxidation. This happens in a mild infection. In a severe infection the respiration and pulse get more and more rapid, the pulse volume gets smaller and smaller, and the blood pressure falls. That is what always happens in severe bacterial infection, and this is the condition we have always known as heart failure, when actually it is failure of the circulation.

What is most important in this condition is the volume of blood that is circulating in the vascular system. In shock from severe bacterial infection, or secondary shock from histamine, or secondary shock from any cause, the conditions in the body are identical physiologically, pathologically and symptomatically. In secondary shock from any cause there is a disproportion between the circulating blood volume and the capacity of the blood vascular system. The circulating blood volume becomes smaller and smaller as the shock increases. The storage areas in the splanchnic area, the liver, the lungs and the subpapillary capillary area of the skin become dilated taking more and more blood from the circulation, allowing the blood to stagnate here reducing the circulating volume of blood. There is also transudation of fluid from the blood into the tissues causing the cloudy swelling in the lungs, the liver, the heart and in all the tissues of the body, even the cells themselves. Some of you have autopsied lungs following pneumonia in which there was so much

fluid that you could take them up dripping with water and wring the water out of them as you would out of a bath towel.

In secondary shock there is always a decrease in the blood volume, lessened chlorides in the blood and particularly a *hemoconcentration* and a *lowered blood pressure*. This happens in secondary shock from pneumonia and from any other cause. The concentration of the blood has been found in some cases of rapidly fatal pneumonia to have produced a hemoglobin increase as high as 140 per cent.

What are the indications for treatment? The ideal thing to do early is to put in antipneumococcus serum to neutralize and destroy these histamine-like bodies that are the actual producers of the damage. The next most important step is to increase the blood volume in any way possible. The best volume increase for the blood is a transfusion of whole blood. If the case is early and the shock not profound, 5 or 10 per cent glucose in Ringer's solution intravenously is indicated. If the case is severe and shock is profound, 50 per cent glucose should be used instead of the diluted solution, as the diluted solution would early transudate adding further fluid and stagnation in the tissues of the body.

If we are dealing with circulatory failure and not heart failure, then digitalis has no place whatever in the treatment of pneumonia unless the patient has a concomitant heart disease.

Strychnine tends to increase blood volume, stimulate oxidative processes, increase phagocytosis, decrease capillary permeability and transudation. It must be given in one-twentieth to one-fifteenth grain doses hypodermically every two or three hours. Epinephrine, ephedrin and pitressin are useful but should be given thoughtfully. Caffeine being a vasodilator and metrazol and coramine being heart stimulants are contraindicated. Oxygen should be used at the first sign of anoxemia and should be kept up efficiently until the crisis has passed, as it materially aids all the defensive mechanisms in severe infection.

Dr. A. M. Dimmock (Atlanta): It has been stated that pneumonia is the friend of the old man. I would say it is the enemy of the young man, and a serious enemy it is. There is so much that can be said about pneumonia we could stay here all night and talk about it. I am not going to bring up any new questions, but I want to emphasize one of the points already mentioned. The first essayist mentioned the use of oxygen where indicated. Dr. Roberts touched on that somewhat more fully. I was once talking to a doctor friend of mine, and we were discussing this subject, and he said to me, "Yes, I think oxygen is good in pneumonia and I use it when my patient becomes cyanotic." The indication for the use of oxygen, as far as I am concerned, in pneumonia depends only on a diagnosis of pneumonia. I think if we will use oxygen early in pneumonia we will prevent a great many of the pitfalls that we get into later on.

As you probably well know, a bad diagnostic sign is for the temperature to come down and the pulse rate to go up. If you will use oxygen early in pneumonia you will find that will not happen nearly so frequently.

I once had a patient who had pneumonia and he said to me, "Now, Doctor, I know I have pneumonia and I know I am getting along all right, but if you put me in one of those oxygen tents I'm going to die," showing the psychologic effect of the oxygen tent. The use of oxygen per nasal catheter is entirely satisfactory and efficacious. In some cases oxygen is being used subcutaneously, but that I have had no experience with. My only reason for getting up here is to add one final plea for the use of oxygen and its use early. Your patient won't need possibly so much oxygen in the very early stages, but the dosage can be regulated and increased as the need for oxygen increases.

I believe that these gentlemen out in the rural districts who have difficulty in getting the serum for these cases would do well to think seriously of getting an oxygen tank if they cannot get the serum.

Dr. T. L. Ross (Macon): I want only to emphasize certain points. The first and by all means the most important point in the serum treatment of pneumonia is early recognition of pneumonia, even before our classical physical findings occur. A chill, high fever, pain in the side, an expectoration of sputum that is rusty-colored, are evidence enough for typing of sputum and for the early administration of type specific serum.

If that is done and serum is given in the first twelve hours after onset (and onset is taken there as the chill and fever) we have a 50 per cent greater chance of recovery from pneumonia. That also includes the prevention of bacteremia, empyema and other purulent complications.

Sutcliffe and Finland, who have done much work in the serum therapy of pneumonia, make the phenomenal statement that they have not had a single case of empyema develop in their series of Type I pneumonias treated with serum within the first twelve hours.

I think that most of the men in the larger centers who are doing the work at present are coming to the administration of the remainder of the total dosage of serum in one injection. Dr. McCloud, who is doing the work at Rockefeller Institute, Dr. Bullowa and Dr. Finland, all mention that in their discussion of the serum therapy of pneumonia. Particularly at this recent meeting was rabbit serum discussed more than horse serum. I think they feel because rabbits can be immunized much more quickly than can horses, rabbit serum sooner or later will be the greater factor in the serum therapy of pneumonia.

I would like to mention one point that Dr. Broderick brought up; that is the patients if given fractional doses every two hours, would become serum sensitive. They mention the fact that serum sensitivity does not occur unless 72 hours have elapsed from the first dose, and after 72 hours if the patient still is running a high fever and there is indication for further serum treatment, that he be tested for sensitivity again.

I would like to say one word about sulfanilamide. Dr. Bishop of New York reported seven cases of Type III pneumonia treated with sulfanilamide with 100 per cent recovery and three of the seven had a bacteremia. Only recently has rabbit serum been available for Type

III pneumonias and the reported cases are too few for comment.

I realize that the chief objection to the serum therapy is the cost of it. 'Let me say this just as a hint to some of the rest of you. In Macon we have gotten the local chapter of the Red Cross interested in raising funds for the treatment of indigent patients on the charity wards in the Macon Hospital. I can't go into that further, but you might try it also.

Dr. Charles H. Richardson (Macon): I would like to say that the impression that I have gotten from this pneumonia symposium is that when a challenge is presented to the medical profession that challenge will eventually be met. If the serum treatment of pneumonia is reducing its mortality, then it doesn't make any difference what the serum costs, it must be obtained by some means. Since the members of the medical side of this discussion have brought out very clearly that the mortality of pneumonia can be and is being reduced, I am not willing for those of us who belong to the surgical side of the profession to admit that the mortality of empyema cannot be reduced. When we know that the mortality of the streptococcus type of empyema which usually follows bronchial pneumonia is 20 per cent and that the pneumococcus type which usually follows lobar pneumonia is 10 per cent we must admit that those figures are too high. That is a challenge also.

I have no desire to overemphasize any one type of operation, but I do wish to bring out clearly that we must adapt the operation to the type of the disease, and if we do open rib resections in early streptococcus empyemas, when there are large, massive effusions, and before the mediastinum has had a chance to stabilize itself, then we are going to let some patients die that ought not to die.

I am sure you have seen children, because I have, die on the operating table when the chest was opened to drain an empyema. That should not have occurred. If that chest had been aspirated and then later drained by the closed method of drainage, and the mediastinum given a chance to stabilize itself, that patient would probably have been brought successfully through that condition. I simply wish to emphasize the fact that there are different types of empyema and that these types are based on definite pathologic underlying conditions, and that you must, if you wish to give a patient the best chance for his life, attempt to differentiate between those types and adapt your treatment to the particular type.

According to ADOLPH G. KAMMER, NATHAN ISENBERG, East Chicago, Ind., and MELVIN E. BERG, Saranac Lake, N. Y. (*Journal A. M. A.*, Oct. 15, 1938), the periodic determination of the inorganic fraction of the total sulfate in the urine of workers is an entirely satisfactory form of medical supervision of employees exposed to a possible benzene hazard. In plants in which benzene is kept in closed containers a monthly examination of this type is adequate. In the supervision of the workmen's health, hematologic studies find their chief practical value in the pre-employment examinations of applicants for work. In a given case of any blood dyscrasia in a worker in a plant using benzene, that substance should not be incriminated without complete study.

CLINICAL OBSERVATIONS OF THE USE OF SULFANILAMIDE*

R. M. HARBIN, JR.

Rome

While the clinical development of sulfanilamide has been slow, the application of clinical tests has spread with unprecedented rapidity. Gelmo,¹ in 1908, was the first to mention para-aminobenzenesulfonamide in his work on the chemistry of azo dyes for the dye industry, but he had no practical application of its use from a bactericidal standpoint at that time. Later, in 1913, Eisenburg¹ pointed out the bactericidal effect of certain azo dyes and conceived the possibility of using these dyes in therapeutics. It was not until 1932, when Domagk¹ of Elberfeld, Germany, discovered the beneficial effect of a synthesized and patented azo dye known as prontosil in streptococcic septicemia in mice. This preparation was later used in an infant, with an apparently hopeless outlook, suffering from staphylococcic septicemia. The infant survived, but when used the second time the results were not satisfactory. In 1935 Domagk¹ reported encouraging results from the use of prontosil in experimental streptococcic septicemia in mice, and it was that experiment that showed the first therapeutic possibility for use of the drug. Following these results much experimental work was done by various investigators, but it was not until 1937 when Long and Bliss used the amino acid cysteine to reduce prontosil and found it was the combination of the two which effected a satisfactory bacteriostasis, thus giving origin to the drug we now know as sulfanilamide, and confirming the findings of Gelmo. To Gelmo, however, rightfully belongs the credit for first mentioning sulfanilamide; to Domagk the discovery of prontosil and streptozon as chemo-therapeutic agents, and to Long and Bliss for its therapeutic application. For the past eighteen months medical literature has been flooded with reports from many investigators covering not only the pharmacologic action but clinical applications, indications and contraindications of the drug. The con-

*Read before the Medical Association of Georgia, Augusta, April 28, 1938.

tinued interest of the medical profession in investigating these new agents has led to an array of favorable reports, but research interest itself is the one thing which will bring about an intelligent and proper evaluation of the drug, and until such time has elapsed standardization cannot be established.

The exact mode of action of sulfanilamide is still unknown, but considerable light has been thrown upon the subject. Long and Bliss³ first suggested destruction of the bacteria by phagocytosis, but Osgood and Brownlee² have shown conclusively that death of the Beta-hemolytic streptococcus does not occur even in a concentration of 1:1000 solution of the drug. In further studies of the problem they showed also that the major action of sulfanilamide consisted in the neutralization of the toxin of this organism, although it does not have any permanent effect on the toxin producing powers of the bacterium, but perhaps might slow the rate of multiplication. They showed further that phagocytosis is not altered one way or the other but this obviously does not include the occurrence of an occasional idiosyncrasy such as agranulocytic leukopenia.

It is well established that sulfanilamide is a specific for gonococcic, and some streptococcic infections. Interest has also been manifested in its effect on other types of infections. In a group of 85 cases in which the infections were mixed, including not only streptococci but others as well, an attempt was made to see just what effect sulfanilamide had on them and to observe the physiologic effect and reactions, trying also to establish a sufficient and maintenance dosage of the drug. An effort was also made to determine the efficacy of sulfanilamide on infections in which effective and specific therapy has already been well established without jeopardizing the chances of the patient's recovery as in lobar pneumonia, Types I and II. No attempt to single out specific cases was made. The above mentioned constitute a group of 85 patients both ambulatory and hospitalized, in whom sulfanilamide therapy was begun provided no apparent contraindication could be found for administering the drug. The same routine was followed in all cases, the same brand of drug used in all patients — prontosil and pron-

tylin (Winthrop). White blood counts and other laboratory determinations were done by the same technician at the same time of day on each patient. Unfortunately no controls could be had and certain observations were discounted if idiosyncrasy occurred.

The observations and compilations here given are admittedly far from being complete and do not show conclusive findings that may be considered reliable reactions as a definite guide. The offending organism could not be determined in each instance as in those localized lesions which did not suppurate; but the consistent response to the drug, the promptness of the localization of the lesion, and the complete recovery in some instances which so often result in unfavorable terminal results, cannot be considered mere coincidence.

The most striking results in this series were diminution of pain, increased comfort requiring less opiate and sedative, prompt localization of the lesion, rapid reduction of temperature and a consistent fall of the leukocyte count, polymorphonuclear cells predominating throughout. In this connection an intimate association between the leukocyte count and the temperature was found. In one instance both temperature and leukocyte count would fall on administration of the drug and rise after its discontinuance. Unfortunately a specific diagnosis could not be made in this patient but the same observations were found in other cases where a diagnosis could be made but in these the excursions were not so pronounced. This observation was not confined to any one specific infection but was generally true throughout all types with only a few exceptions. In no instance was a definite leukopenia found, the lowest count being 6,200 cells with a predominance of polymorphonuclear cells. The hemoglobin and red cell counts generally were lowered from 200,000 to 100,000 cells with a drop of 10 to 12 per cent in the hemoglobin. Whether this was the result of the disease or the drug could not be determined. In five instances slight discoloration of the lips and fingernails were noted but in only one occurred a definite cyanosis. Anorexia was encountered in 18 patients, but the disease might have been responsible for it. Excessive dryness of the mouth occurred once. A sen-

| | No. Cases | Diagnosis | | Response | Deaths |
|-----------------------|-----------|----------------------------|----------------|----------|--------|
| Head | 10 | Cellulitis | {Ear 1 | Good | 0 |
| | | | {Face 4 | Good | 0 |
| | | | {Jaw 4 | Good | 0 |
| | | | Face 2 | Good | 0 |
| | | Erysipelas | | | |
| Throat | 7 | Tonsillitis | 6 | Good | 0 |
| | | Gen. sepsis | 1 | Good | 0 |
| Neck | 1 | Cellulitis | 1 | Good | 0 |
| Lungs | 11 | Pleurisy | 1 | Good | 0 |
| | | Broncho-pneumonia | 3 | Good | 0 |
| | | Lobar-pneumonia | 4 | Poor | 1 |
| | | Post-Op. pneum. | Broncho 3 | Good | 0 |
| | | | Lobar 1 | Poor | 1 |
| | | Bronchitis | 3 | Good | 0 |
| Heart | 1 | Endocarditis | 1 | Poor | 1 |
| Upper abdomen | 10 | Appendix | {Peritonitis 4 | Good | 0 |
| | | | {Abscess 3 | Good | 0 |
| | | | {Acute 2 | Good | 0 |
| | | Gall bladder | 1 | Poor | 1* |
| Pelvis | 15 | Salpingitis, without op. | 6 | Good | 0 |
| | | Parametritis | 1 | Good | 0 |
| | | Pyosalpinx, with operation | 7 | Good | 0 |
| | | Sepsis retained placenta | 1 | Good | 0 |
| | | Cystitis-pyelitis | 8 | Good | 0 |
| Genito-urinary System | | Urethritis, G.C. (male) | 8 | Good | 0 |
| | | Perinephritic abscess | 1 | Fair | 0 |
| Extremities | 7 | Cellulitis | {Arm 2 | Good | 0 |
| | | | {Leg 1 | Good | 0 |
| | | | {Hand 2 | Good | 0 |
| | | | {Ankle 1 | Good | 0 |
| | | | {Foot 1 | Good | 0 |
| | | | | | |
| Bones | 3 | Osteomyelitis | 2 | Good | 0 |
| | | Periostitis | 1 | Good | 0 |
| Joints | 2 | Non-specific arthritis | 1 | Good | 0 |
| | | Inf. arthritis | 1 | Fair | 0 |
| Unclassified | 1 | Undetermined | 1 | Good | 0 |
| TOTAL | 85 | | | Good 75 | 3 |
| | | | | Fair 2 | |
| | | | | Poor 8 | |

*Death from lobar pneumonia.

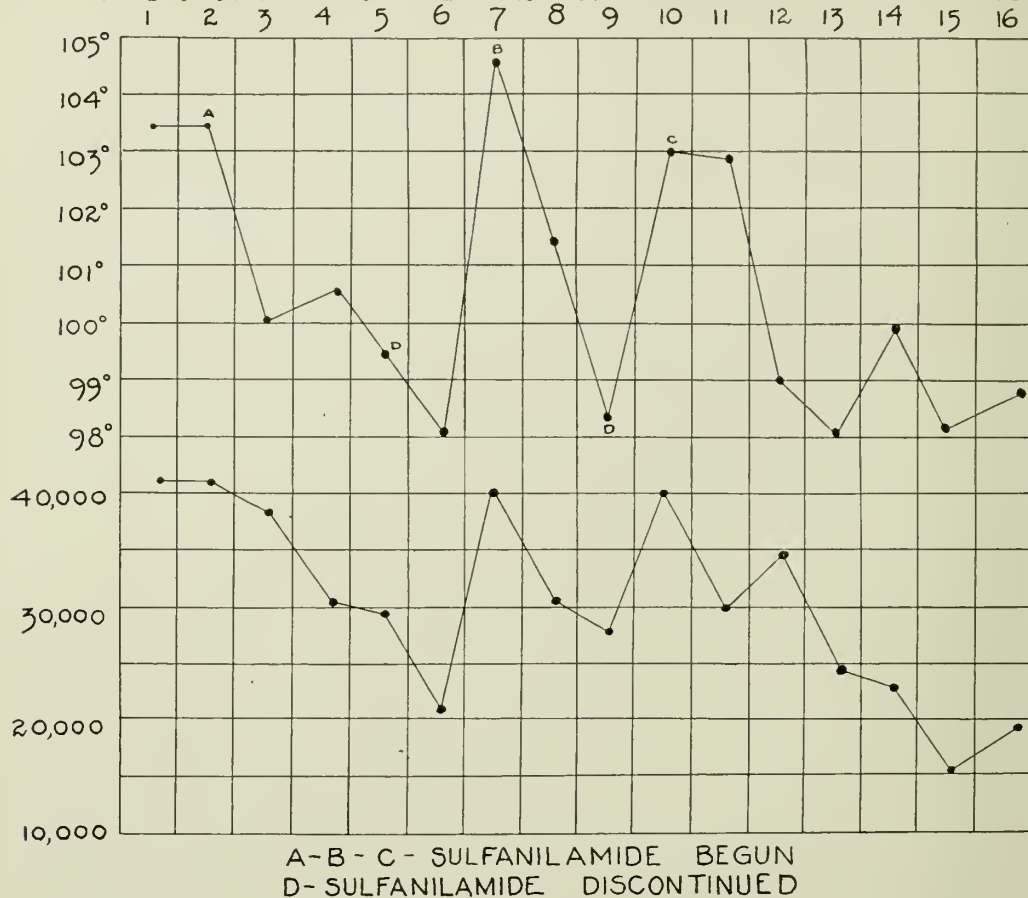
sation of roaring in the ears similar to that experienced in quinine therapy was encountered once. On the whole no very disagreeable results were seen.

As near as possible the dosage and frequency of the drug given was kept as near the same in all patients except in children under 16 years. Above this age adult dosage was given, and below this one-half of the adult dose from 8 to 16 years, one-third from 4 to 8 years, and one-fourth from 1 to 4 years. In five instances strongly positive Kahns tests were encountered in people without active syphilis. Their response was compatible with the others. Arsphenamine was not given until recovery. Just what effect, if any, sulfanilamide has on the spirochete will be inter-

esting to know. Originally prontosil was given 5 cc. intramuscularly every five hours for five doses; thereafter every six hours for four doses, making a total of 45 cc. Then sulfanilamide, 15 grains three times a day, dropping to 10 grains three times a day; then to 5 grains twice a day until recovery. The prontosil was discontinued as a routine measure because it was no more effective than the sulfanilamide by mouth; and because of the severe discomfort complained of so often by the patient. Where oral medication was contraindicated, as in peritonitis from perforated appendix, prontosil was used.

Chart 1 includes a list of the diagnoses and number of each.

Reports of two cases are given to illustrate several effects of the drug.

CASE II. RELATION OF TEMPERATURE TO TOTAL WHITE CELL COUNT

Case 1. A man aged 44 years was admitted to the hospital with a diagnosis of acute gonorrheal urethritis of seven days duration. Four days prior to admission his family physician had given him 80 grains of sulfanilamide every 24 hours, for a total of 320 grains. Physical examination revealed pallor, marked dyspnea, edema of feet and ankles, scattered moist rales at both lung bases posteriorly, enlargement of the liver to three finger breadths below the costal margin, moderate cyanosis of lips and finger nails; white blood count 6,200. The drug was immediately discontinued and in 48 hours all reactions had disappeared except slight enlargement of the liver. On admission no gonococci could be found in the prostatic smear; three days later they were present. After 60 hours 15 grains of sulfanilamide three times a day was started; three days later this dose was reduced to 10 grains three times a day and continued for twenty-one days. The gonococci completely disappeared and did not recur.

Case 2. A man aged 34 was seen who complained of severe pain in the left flank, evening fever of 104° F., profuse sweats, loss of appetite and marked reduction in weight. The duration of symptoms was 30 days. Physical examination revealed emaciation, enlargement of the liver, tenderness and rigidity in the left flank. On admission the temperature was 103.2, pulse 95, respiration 22. The white blood count was 43,000, hemoglobin 82 per cent, red blood cells 3,920,000, differential: 88 per cent polys., 12 per cent large

lymphocytes. The urine was normal. Blood cultures were consistently sterile. All serologic work was negative. Blood smears showed nothing abnormal. X-rays of his chest, kidneys, ureters and bladder revealed no alterations. Pyelograms and renal specimens were normal. No evidence of blood dyscrasia, enlargement of the spleen or lymph nodes could be found. The patient was given 5 cc. of prontosil every five hours for five doses, thereafter every six hours for a total of 44 cc., followed by 15 grains of sulfanilamide three times a day. The fever declined, and at 8 A. M. of the sixth day was 98° F. The white blood cells dropped daily and at this point were 21,500; polys. 87 per cent, small lymphocytes 8 per cent, large lymphocytes 5 per cent. The sulfanilamide was discontinued on the evening of the fifth day. By noon of the seventh day the temperature had risen to 104.2°; white blood cells 40,800. The same dosage of sulfanilamide was again started and at 8:00 A. M. on the eighth day the temperature was 98.3°; white blood count 28,500. At this time 600 cc. of whole blood was given intravenously, and sulfanilamide discontinued. The temperature promptly rose in fifteen hours to 103°. For the third time sulfanilamide was again given and the temperature fell gradually to 98° remaining between 98 and 99.4° for three days when he was discharged on the sixteenth day improved. He was instructed to take 15 grains of sulfanilamide a day for two weeks. Thirty days after leaving the hospital he returned

completely recovered, with a leukocyte count of 9,400. A diagnosis was not made, but the apparent effect of sulfanilamide both on this patient's temperature and white blood count seems striking.

Summary

1. Sulfanilamide is not new but its therapeutic application has been only recently recognized.

2. Sulfanilamide clinically is just as effective as prontosil and causes fewer disagreeable after effects, and unquestionably shortens the activity of many infections.

3. In a group of 85 patients with mixed infections, in whom sulfanilamide was used, the effect appeared beneficial excepting only lobar pneumonia, types I and II, which showed no response. These findings suggest that the drug can be used to advantage in infections other than the streptococcic and gonococcic types. Both a fall in temperature and total white blood cells was found to be pronounced in these patients, giving an ultimate beneficial result.

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DISCUSSION ON PAPER OF DR. R. M. HARBIN, JR.

Dr. A. Park McGinty (Atlanta): We always like to give credit to our own workers. The first report on sulfanilamide in America was given by Long and Bliss at the 1936 meeting of the Southern Medical Association, and I feel that we can take pride in their accomplishments. However, I feel that Dr. Harbin has given them undue credit when he states that the reduction of prontosil with cysteine hydrochloride accomplished by them gave rise to the drug now known as sulfanilamide which they found was the effective bacteriostatic fraction. Their paper regarding this reduction was published in Feb., 1937. Fifteen months previously on Nov. 23, 1935, Trefouel, Nitti and Bover had read a paper in which they concluded that animals could break down the azo compounds with the formation of paraaminobenzenesulfonamide. Buttle, Gray and Stephenson published confirmation of this June 6, 1936. Colebrook, Buttle and O'Meara described the reduction of prontosil with magnesium powder Dec. 5, 1936. Reference to this work is made by Bliss and Long in their paper.

If we assume that sulfanilamide is the only effective bacteriostatic fraction in prontosil then theoretically 10 cc. of prontosil is equivalent to only 73 mg. or a little less than $1\frac{1}{4}$ grains of sulfanilamide. I am glad to hear that Dr. Harbin from his experience has discontinued use of prontosil and now uses the more simple drug sulfanilamide exclusively.

Dr. Harbin has mentioned the work of Osgood and Brownlee. In their work with bone marrow cultures they found that the effective concentration of sulfanilamide appeared to be about 1:100,000 or only one-tenth of that now ordinarily maintained in the blood stream. If this smaller effective dosage can be confirmed in vivo it will be important in decreasing the complications. In Dr. Harbin's series a moderate dosage has been given, i.e., not more than 45 grains daily. With this amount the results were good with surprisingly few complications. The first of the two cases reported had received a frequently recommended large dosage, i.e. 80 grains daily for four days. This patient showed several of the disagreeable symptoms that may follow the use of sulfanilamide.

In this series of 85 cases the appearance of definite cyanosis in only one case and slight discoloration in five others is quite outstanding when we compare it with the occurrence of cyanosis in 90 per cent of the patients treated with sulfanilamide by Long and Bliss. No case in this series was noted to have acidosis, fever or rash due to the drug. The slight fall in hemoglobin and red blood cell count can not be considered as evidence of acute hemolytic anemia. The effect on the leukocytes was a consistent fall in their total count. No tendency to agranulocytosis was noted.

In contradistinction to the fall in the leukocyte count in patients without complications, other workers have reported a marked rise in the leukocyte count associated with complications. This leukocytosis has been as high as 90,000 per cubic mm. It has occurred with exfoliative dermatitis and during recovery from agranulocytosis and acute hemolytic anemia.

We all know how much more difficult it is to treat patients scientifically in private practice than in institutions. Therefore I think Dr. Harbin should be congratulated on the way he has followed these patients with blood counts and other laboratory procedures. He has a series of cases of which he may rightfully be proud.

Dr. C. F. Holton (Savannah): Dr. Harbin has read a very interesting paper on the use of a new medicine. He has tried it with considerable success in a number of cases where it would not ordinarily have been used.

At the Southern Medical Association meeting in New Orleans recently I heard a speaker discuss the use of sulfanilamide. That speaker had searched the literature and found something over one hundred diseases in which the drug had been given.

I feel that this is a very valuable preparation in many conditions, especially those of the genito-urinary tract and in streptococcic infections.

I hope that this valuable medicine will not fall into disrepute through the tendency to make it a specific for all types of diseases. In our enthusiasm we are prone to abuse new drugs and when we do not get results in conditions where these drugs have no place, often the drug itself is blamed unjustly.

I have recently had two striking examples of the value of sulfanilamide. One was a case of puerperal sepsis which came to me in labor. Another doctor in the rural districts had made an examination, so the

patient stated, without observing ordinary cleanliness of his hands or using rubber gloves. Following the delivery of the child this woman became desperately ill and I feel certain that sulfanilamide, which was given in large doses both hypodermically and by mouth, was instrumental in saving her life.

The other case was one of acute multiple arthritis following a kidney infection. The prompt administration of moderate doses of sulfanilamide by mouth caused a cessation of her symptoms with disappearance of the swelling in the joints within five days and permitted her to return to her work within a week of the onset of the attack.

I feel that Dr. Harbin has done a worthwhile thing in reporting this series of cases to the Association and congratulate him upon the results he achieved. I again emphasize, however, that we must not regard this drug as a cure-all but it will undoubtedly prove to be a great help in many cases which were formerly doomed to a high mortality and a higher morbidity.

Dr. Harold McDonald (Atlanta): Dr. Harbin presented a most interesting series of cases showing the use of sulfanilamide in general infections and general conditions. I should like to discuss the use of this drug in urologic infections other than gonococcal infections. We have known for some time that infections in the genito-urinary tract caused by the bacillus proteus organism, streptococcus fecalis, and some strains of the B. coli and staphylococcal organisms have been very resistant to any treatment or medication. Sulfanilamide in our hands and in the hands of others has been shown to be the most striking chemical developed in the last decade for combating this type of infection especially.

There is one important thing that we should not overlook in the use of this drug, and as Dr. Holton has brought out, there is likely to become a tendency to use it as a cure-all for all types of infections, and when a patient comes in with cloudy urine, it is very easy to fall into the habit of just prescribing sulfanilamide and seeing what happens. In many cases of stones and obstruction and other conditions, even if the drug clears the urine or clears the infection, it is likely to be injurious to the patient, because a condition can become much worse treated by sulfanilamide alone. A complete examination, x-ray studies and clearing up of obstructions and pathologic conditions present should be done, before sulfanilamide is used.

Sulfanilamide has been shown to work equally well in alkaline and acid urine, and in fact has been recommended and used in conjunction with soda bicarbonate to lessen the toxic effects. It has been shown recently that cyanosis that sometimes occurs with sulfanilamide can be lessened by taking methylene blue, two grains three or four times a day. It has also been shown that sulfanilamide does not have any effect on the spirocheta pallida.

The use of sulfanilamide in conjunction with artificial fever has improved the benefits obtained from artificial fever, so that the artificial fever need not be carried so high nor maintained so long, in order to get good results, also the amount of sulfanilamide necessary is not as great as when it is used without the artificial fever. This observation we have made on num-

bers of cases of resistant and persistent infections such as those with pockets in the urethra and chronic prostatitis, subacute prostatitis, and other complications, particularly gonococcal arthritis.

Dr. Marion C. Pruitt (Atlanta): I have been particularly interested in this paper and the general discussions of this subject during the past year. Recently I have been using sulfanilamide both before and after operation in certain proctologic conditions which previous to this time had a convalescence of a much longer duration than after the average routine proctologic operation. The observations have been made on the basis of the bacterial findings in smears taken from the mucous membrane of the rectum. In cases where the bacterial flora is very markedly increased, especially when the streptococcus is the predominant organism, or a short strain staphylococcus or diplococcus, there is a very marked, and in some cases almost clearing up of the edema of the tissues, and discharge when sulfanilamide is given. In these conditions you clear up and have a quiescent state at the time of the operation. Immediately following the operation, as soon as the patient is able to take the drug by mouth, follow with another series for three or four days.

In doing proctologic work I see many cases that are more or less of the debilitated pellagra or nutritional deficiency type. Many of these patients' chief complaint is a dull aching sensation of the rectum, which is more or less constant over a long period of time. Examination of these patients show a marked cryptitis, papillitis, and proctitis and some have a marked hypertrophy of the papillae extending up to the size of an ordinary lead pencil. Usually three or four of these growths are present, and often blind subcutaneous sinuses leading from the crypt back underneath the cutaneous structures on to the peri-anal skin. If these patients are operated on without sulfanilamide they usually have a long, persistent duration; the patient seems to have a resistance that is just below the necessary amount to take care of the infection with the added trauma produced by the operation. The clearing up or the quiescence of the condition previous to operation makes the convalescence of these patients an entirely different proposition, puts them on a basis comparable to the average condition which we do not consider as a chronic persistent or recurrent infection.

One other condition which has been outstanding and specific is the acute inflammatory condition which frequently develops into a gangrenous condition and the organisms that produce gangrene are found in many cases. Those patients come out spectacularly, and I think protosil in large doses should be given immediately after operation, since the condition is desperate. It has been of much value to me in working out those cases with long, persistent convalescence, with thickening and edema of the skin, with sinuses, and often preventing a secondary operation.

Dr. Willis P. Jordan (Columbus): I couldn't let Dr. Harbin's paper go by without bringing this information to you. Quarles, who is the senior surgeon at Fort Benning, in cooperation with Lieutenant Hamilton, decided that they had to do something about their lymphogranuloma inguinale. Those of you who have

been connected with the United States Army in time of peace realize the conditions that the soldiers are in when they have lymphogranuloma inguinale, because the treatment we have had in the past is of no value whatsoever. The only recent article printed was one in the American Medical Journal that came out the first of this year, in which was discussed the Frei test in intestinal cases of lymphogranuloma inguinale as it might be connected with the disease as a whole. They decided inasmuch as it must be a virus infection, and also since sulfanilamide had been used in the treatment of virus infections a few times with great success, that they would use it.

He had a series of cases which he reported last month and which are going to be in print for the Surgeon General's office at an early date, in which he showed that these patients received wonderful improvement and recovery. In place of going two to six months, as a great many of their men had been going, they were cured, or at least went back to duty with no temperature and were able to go to work as soldiers in two to four weeks. Since he has reported this we have had four cases of our own in which we have used it with great success. The dosage is a little less than you would ordinarily use in gonorrhea, or you can use as much. He did not receive as good results with prontosil as with the sulfanilamide itself. I think this is worthwhile for you to remember, because some of you do come in contact in your private practice with lymphogranuloma inguinale. It is not a disease of the tropics, and we see it all the time in increasing numbers. We have it in the North as well as in the South. It evidently must be spreading.

Dr. Robert M. Harbin, Jr. (Rome): I have enjoyed the discussion. There were two points that I really wanted to stress; the field for the use of sulfanilamide is certainly much broader than apparently was first thought, and, secondly, in the first use of the drug a much larger dosage was given than appears now to have been necessary, because in this series, while perhaps the response was not quite as quick as others have had, the moderate dosage apparently has been just as beneficial.

In reference to prontosil and sulfanilamide, it seems to be somewhat of a coincidence that the two should have apparently the same effect. Five cubic centimeters of prontosil are equivalent to 37 milligrams of sulfanilamide; as Dr. McGinty has brought out that apparently is not a sufficient amount of sulfanilamide to be effective. It is thought by the manufacturers that it is the azo dye portion of the prontosil, and the two being equal in effect is something more than a coincidence, as has been definitely shown. Getting down to actually what happens in the pharmacology of sulfanilamide, it has been proved that the toxins which have been separated from the beta-hemolytic streptococcus are neutralized by the sulfanilamide. The organism has also been definitely shown to be inhibited in its growth by sulfanilamide. A suggested explanation of the action brings it down to the point that because of those two factors the leucocytes are allowed to pursue their normal course in the protection of the body.

I must admit, though, that in the 85 cases that we have had the streptococcus was outstanding in its response, more so than any of the other organisms.

ARTHRITIS IN SYPHILIS†*

JAMES S. NEW, M.D.

JOHN W. BRITTINGHAM, M.D.

Augusta

In this report the term arthritis is used as it is defined: inflammation of a joint. Whether such inflammation is a true arthritis or merely an arthralgia is not important in this report. It is our contention that syphilitic arthritis is more common than many previous reports have suggested. We are of the opinion that a diagnosis of syphilitic arthritis should be considered whenever painful joints occur in a known syphilitic patient, who is free of any other acute infection. When such painful joints return quickly to normal condition without treatment other than antisyphilitic, we consider it strong suspicion of their spirochetal origin. The material examined for this report comprises the records of eight thousand consecutive admissions to the Syphilis Division of the Out-patient Department of the University of Georgia Hospital.

Sixty-one patients were observed with the clinical picture of arthritis. All were admitted to the Syphilis Division of the hospital with complaints which concerned chiefly their joints, and were referred to the clinic because of a positive Wassermann or Kahn reaction. The complaint which demanded hospital or clinic attention in these sixty-one patients was of a skeletal nature. We elicited a history of painful joints, described as "misery in the joints," but felt that the diagnosis of arthritis was not justified unless this complaint predominated. It has been our impression that multiple painful joints are not at all unusual in early syphilis, in spite of the fact that only thirteen of the sixty-one patients were in the early classification.

It was interesting to note that there was not a Charcot's joint in our series, and that there was only one case of hydrops of the knee joint. We feel that periostitis is a separate clinical entity and should not be considered with this group. In the patients we observed there was severe joint pain without demonstrable evidence of bony changes. We regret that more roentgenograms were not made of the patients, but in the cases where they were

†From the Syphilis Division of the Department of Medicine, University of Georgia School of Medicine, Augusta.

*Read before the Medical Association of Georgia, Augusta, April 29, 1938.

made nothing characteristic of arthritis could be seen. All of these patients were ambulant and able to attend the Out-patient Department. Improvement was so pronounced after as little as two or three treatments in many, that large numbers of roentgenograms seemed unnecessary.

We feel that the clinical aphorisms formulated by Todd¹ and mentioned by Francisco² should receive serious consideration. His important conclusions were that a blood Wassermann should be made on every case of arthritis, and that rheumatism should never be diagnosed until syphilis has been excluded. Three of our patients were thought to have had acute rheumatic fever because of their polyarticular rheumatism and sore throats.

TABLE I

| Stage of Syphilis | Patients | Joint Involvement | |
|---------------------|----------|-------------------|--------|
| | | Multiple | Single |
| Secondary | 5 | 3 | 2 |
| Early | 8 | 8 | 0 |
| Tertiary | 48 | 43 | 5 |

Two of these cases occurred in both a husband and wife who were admitted to the clinic with secondary syphilis. The husband appeared first with a florid maculo-papular rash and joint inflammation of such a marked extent that he was unable to walk without severe pain. Practically every joint in his body was acutely painful on motion. After the second injection of neoarsphenamine he was able to walk into the clinic for further treatment. About seven weeks later the wife of this man was also admitted to the University Hospital with acute arthritis of the left hip and a widespread maculo-papular rash. The response to treatment in her case was as striking as in that of the husband.

Fifty-four of our sixty-one patients presented multiple joint involvement, and fifty-one were under the age of forty. Criteria for the diagnosis of syphilitic arthritis have been too severe. Chesney, Kemp and Baetjer³ have emphasized the value of the relatively high percentage of lymphocytes and mononuclear cells found in joint fluid of syphilitic polyarthritis. Turner⁴ working in the same clinic, after a study of ten thousand ambulatory patients, states that syphilitic arthritis was observed rarely as a manifestation of late syphilis. The value of such opinions is

minimized when we consider the fact that this type of arthritis is infrequently associated with joint fluid or very much swelling.

In regard to treatment of syphilitic arthritis caution should be exercised in the use of arsphenamines in spite of the fact that this type of drug causes rapid disappearance of symptoms. As it has been demonstrated, most of these patients are in the stage of tertiary syphilis, and this means that there is frequently an accompanying tertiary lesion, such as a cerebral or cardiovascular one. If arsphenamines are given in such cases Herxheimer reactions might occur with resultant disability from severe cardiovascular or other visceral damage. In the early cases arsphenamines should be used in full dosage at bi-weekly intervals, and should also be the drugs of choice if careful examination fails to disclose any complication other than arthritis. In the latter, however, the dosage should be smaller. In all of our patients there was rapid amelioration of symptoms after two or three injections of neoarsphenamine. Improvement was definite but not as rapid under bismuth therapy. Potassium iodide by mouth was administered to all patients.

Summary

We have shown that painful joint symptoms are not at all uncommon as a manifestation of syphilis.

Whether painful joints should be called arthritis or arthralgia is not relevant.

Syphilitic arthritis, in most cases is polyarticular and responds very promptly to specific treatment. It is more often a manifestation of late than early syphilis.

Wassermann or Kahn tests should be routine blood examinations of all patients with arthritis.

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THE SOUTHERN MEDICAL ASSOCIATION will meet in Oklahoma City, Oklahoma, November 15-18, 1938. All members of state medical societies in the South are invited to attend. There will be nineteen clinical sections. The Oklahoma County Medical Society urges members of the profession to attend the meetings which will be held in the Municipal Auditorium. The main auditorium will seat 7,000.

GRADENIGO SYMPTOM COMPLEX*

Case Report

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Macon

In 1904 Gradenigo first described a new symptom-complex occurring in the course of a middle ear suppuration. The syndrome consists of:

1. A purulent otitis media, with or without mastoid involvement.
2. Severe pain referred to the temporal and parietal regions on the affected side.
3. Paralysis of the sixth nerve on the same side.

Etiology

As first outlined by Gradenigo, I believe this symptom-complex due to a circumscribed, simple, serous leptomeningitis, localized about the tip of the petrous pyramid and caused by diffusion of the infection in the tympanum. Dench likewise attributed it to circumscribed meningitis at the petrous tip.

Pathology

The sixth nerve passes almost vertically along the back of the apex of the petrous portion of the temporal bone. In this locality it bends forward in a minute canal (Dorello's) which is bridged over by the ligamentum petrosphenoidale (Gruber). Inflammation, swelling or edema of this canal causes pressure and a subsequent paralysis. The pain in this condition is due to the proximity and subsequent involvement of the Gasserian ganglion which lies in a depression on the anterior surface of the apex of the petrous portion of the temporal bone.

Symptoms

During the course of a suppurative otitis media there develops an abducens or external rectus paralysis on the side of the affected ear, accompanied by severe pain referred to the temporal and parietal regions of the same side of the head.

In the case here reported, the pain preceded the paralysis of the abducens. Intense pain, requiring sedatives is usually referred to by the patient as being in the interior of the af-

fected ear, especially temporoparietally and, at times, also to the depth of the orbit.

Paralysis of the abducens appears suddenly. Diplopia is the symptom first noted by the patient.

Diagnosis

If, during the course of a suppurative otitis media, a patient complains of severe pain in the depth of the orbit or temporoparietally, or if a diplopia is noted, our suspicions should be aroused. In the early stages the paralysis may not be so easily demonstrated while the pain may be periodic and not so severe; very soon the pain is quite severe and continuous and paralysis is easily demonstrated. The cases of abducens paralysis of toxic or syphilitic origin are so much more common that those of otitic origin are likely to be overlooked.

Prognosis

Recovery generally takes place. Wheeler states "The paralysis may clear up in a few days, and in a few cases has disappeared almost miraculously after a mastoid operation." Patients are known in whom traces of paralysis were found five months after the occurrence of the disease, but the time in which recovery occurs varies from one to three months.

Treatment

I feel that a patient with acute suppurative otitis media who has developed this symptom-complex and whose condition shows no immediate improvement should have a simple mastoidectomy performed; if the symptom-complex developed in the course of a chronically discharging ear, the radical operation is to be advised.

Gradenigo's syndrome may be seen before or after a mastoid operation has been performed. If these symptoms appear subsequent to a mastoidectomy, as was true in my case, I should urge the policy of watchful waiting and observation, for in most cases of this type, you will be rewarded with complete disappearance of symptoms, without further surgical intervention.

Case Report

A female, aged 28, complained of severe pain in left ear on night of Mar. 21, 1937, and the left drum was incised the next morning. Severe pain persisted after incision of drum so the patient was admitted to a hos-

*Read before the Sixth District Medical Society, Milledgeville, June 30, 1937.

pital on Mar. 24. On admission her temperature was 101°, pulse 93, white blood count 10,850.

On examination only scanty purulent drainage from the left auditory canal was noted, and definite mastoid tenderness was found. The next day there was practically no drainage from canal and the mastoid tenderness was more pronounced so myringotomy was repeated under gas anesthesia. Smear from the affected ear showed streptococci and Prontylin tablets two three times a day were ordered, along with supportive therapy. On Mar. 27, the leukocyte count was 16,650, temperature 101-102° and there was periodic, scanty drainage from the ear with increasing mastoid tenderness. With this a very unusual symptom was presented; the patient noted soreness in left cheek and when using a drinking tube she complained of hypersensitivity at the angle of lips on left side. This, I believe, was due to irritation of the fifth nerve as some patients develop neuralgia as an accompanying symptom, the pain being distributed along the branches of the fifth nerve and occurs spasmodically.

Roentgen-ray examination of left mastoid on March 27 was reported "Cloudiness of cells, but the bony septa are still intact. There is more marked clouding of cells in region of mastoid antrum."

On March 29, a simple mastoidectomy was done. At operation the findings were: a sclerotic, diploic type of mastoid with practically all of the disease confined to antral and tip regions, the cells of which were filled with pus and granulations. The antral region was unusually deep and hollowed out, which I think was due to the fact that from the onset of the ear trouble, I was dealing with an infection which became blocked off in the mastoid antrum, as evidenced by the scanty drainage and early mastoid tenderness. There were no exposures of the dura or lateral sinus; both plates were found to be healthy.

During the first few hours following the operation the temperature reached a peak of 105°, returning promptly to 100° where it remained without further remissions. Convalescence was normal until April 6, when she noted sharp continuous pain behind the left eye, which required sedatives for relief. Temperature and pulse curves being normal, and the mastoid wound draining nicely, the patient was discharged from hospital April 6, but the following day she was seen in my office, and was complaining of severe pain which seemed to originate in the temporal region and radiated forward deep into the orbit. Examination of the pupils, cornea, media and fundi revealed no abnormalities. There appeared to be slight limitation of abduction in the left eye, but no diplopia had been noted. On her way home from my office she suddenly noticed she was seeing two objects on looking in the left lateral field of vision. By the next day there was diplopia in the primary position, increasing in the left field. Also, abduction of the left eye was quite limited and paresis of the external rectus had developed.

I immediately placed a patch over the left eye to correct diplopia. With the onset of the diplopia her temperature was elevated to 100-101°, pulse 80-85. Also, coincident with this, the pain behind her left eye became more severe requiring more frequent use of

sedatives. Although there was ample opening in the operative wound for drainage, the drainage became rather scanty. This to my mind is what helped bring about this symptom-complex postoperatively, as with the return of a more profuse drainage the symptoms improved.

Several days before April 25 the abduction of the left eye was less limited and the pain behind the eye was gradually improved. On this day, eighteen days after the onset, the patient noted she was entirely free of diplopia and the eye examination showed the function of the paralyzed muscle completely restored. Along with this general improvement the severe pain behind the eye gradually disappeared. The mastoid wound finally closed and the patient is perfectly well and symptom free.

Conclusions

This case is interesting in that the Gradenigo symptom-complex appeared postoperatively during a normal convalescence.

This type of case warrants a policy of watchful waiting and careful observation, except in the presence of intracranial complications.

A NEGLECTED CASE OF ARTHRITIS

Report of Case

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Atlanta

Mr. W. K., a lineman, came to me late in July, 1937, giving the following history:

"I am now 35 years of age; at the age of 14 I had an attack of rheumatism, which was treated by taking medicine and resting in bed; I got better.

"At the age of 21 I had a second attack and called in a physician; he told me to have some of my bad teeth pulled. He also prescribed some medicine and told me to go to bed. I went back to work as lineman but it was hard and I felt myself getting worse.

"At the age of 30 I had my third attack, suffered with severe pain in the back and all my joints were aching. A doctor diagnosed the condition as arthritis. I went to bed and had the remaining teeth removed. I was not improving and consulted two physicians to get another diagnosis. They confirmed the first diagnosis. I then went back home where I was treated by a physician with autogenous vaccine. I stayed there, most of the time in bed, 5 months but gradually got worse, suffering more pain and the joints were getting stiffer.

"I returned here June 1, 1935, and stayed in bed practically all the time. A doctor prescribed some medicine with no benefit; the pains were increasing. I then went to a chiropractor and then to a hydrotherapist; neither did me any good and I felt worse than ever before.



Fig. 1. Fingers and wrists dislocated and ankylosed.

"I again consulted a physician and he sent me to the hospital where a number of tests were made; my fingernails were tested for calcium and sulphur, but I was not financially able to remain there and take the treatment in order to get the benefit of the tests made.

"Of my own accord I went to a hospital, where my tonsils were removed. I stayed there four weeks resting in bed and taking some medicine. There was no improvement in my condition."

Physical Examination: An emaciated body lying in bed, mind alert, face and neck swollen; jaws ankylosed, difficult for him to chew and to swallow coarse food, all joints more or less ankylosed. Edematous swelling in both feet and ankles, skin broken and a serous fluid passing from it. Knees, fingers and wrists dislocated. Blood pressure 130/90, temperature 99, pulse 90; heart and lungs negative; tongue coated; suffers with constipation; skin dry; has difficulty in urinating.

LABORATORY REPORTS

Urinalysis, after prostatic massage: color, yellow, reaction, acid, transparency, cloudy; S.G., 1012, sugar, negative; acetone, negative; indican, one plus; albumen, one plus. Microscopical examination showed many pus cells, no casts and no blood. Stained sediments: short chain streptococci and staphylococci. Vaccine prepared.

Blood Culture: No growth after four days' incubation. After seven weeks' incubation an attenuated form of streptococcus viridans was isolated and a vaccine prepared.

Blood Count: Red cells, 4,680,000; white cells, 7,400; hemoglobin, 90 per cent. Differential count: Polynuclears, 63 per cent; small lymphocytes, 24 per cent; large lymphocytes, 8 per cent; eosinophiles, 5 per



Fig. 2. Knees dislocated and ankylosed.

cent. Malarial parasites, none. Blood Wassermann negative.



Fig. 3. Spine ankylosed.

Blood Chemistry: Blood-urea-nitrogen 17 mg., sugar 125 mg., calcium 8 mg.

Feces: No ova, or ameba found; formed stool, no mucous; occult blood negative. Bacterial flora apparently normal.

X-ray findings: Hypertrophy of lower lumbar spine and sacro-iliacs; the sacro-iliacs are practically fused. Large spurs are seen on the ilia, ischium and trochanters. Atrophy is noted in knee and ankle joints, and feet. No destruction of epiphyses. There is destruction of the cartilages in the knee joints with marked posterior displacement of the tibia and fibula. There is marked decalcification of the bones of the feet, ankles and knees, but no actual bone destruction. Displacement of bones in both wrists and fingers.

DIAGNOSIS

Advanced hypertrophic-atrophic chronic arthritis with fused and dislocated joints. The prognosis: unfavorable.

TREATMENT

A Balkan frame was erected and traction was applied with countertraction to correct the lateral posterior displacements of the tibiae and fibulae; sand bags weighing $\frac{1}{2}$ pound were used for traction, this was later increased to 1 pound. A board 18 inches wide and 5 feet long was placed beneath the mattress. An improvement of 10 degrees was apparent in the contracted knees, but there was no appreciable change in the lateral displacement. When the weight was increased to one pound an increase in the temperature developed and the pain in the joints of the knees and hips became unbearable; this pain continued even after the weight was reduced to $\frac{1}{2}$ pound. The traction treatment was then discontinued.

Diet was regulated; bowel and kidney functions were looked after. Epsom salts packs were applied to the feet and ankles. The strepto-staphylococcus vaccine was given. This eased the pain in the joints but had no other noticeable effect on the general condition. Cod liver oil was given.

Two consultations were arranged and it was suggested to give the patient sulphur in large doses. This was done with no beneficial results.

The application of electric heat twice daily with hot oil massage and care of the bowel and the kidneys kept the patient comfortable. The idea of correcting the deformities was abandoned.

In my heading I used the term neglected. My opinion is that at the first indication of deformity in this patient proper splinting would have prevented the dislocations. Proper massage of the weakened muscles and tendons, and passive exercise of the joints, would have prevented the contractions.

I have not time to discuss the subject of arthritis but, suffice to say, one must possess a general knowledge of body mechanics and sufficient orthopedic knowledge if he is to prevent repetition of this pitiable story.

In JAMES B. MCNAUGHT'S, San Francisco (*Journal A. M. A.*, Oct. 1, 1938), series the Gordon test was positive in ten of thirteen cases of Hodgkin's disease (77 per cent) and negative in thirty-five of thirty-seven control cases of various lymphadenopathies (95 per cent). These cases being included, the Gordon test has been reported positive in 70 per cent of 192 cases of Hodgkin's disease and negative in 98 per cent of 251 control cases. Histologic sections of the lymph nodes eliciting the positive reactions showed numerous eosinophils, while the nodes associated with the negative reactions contained very few or no eosinophils. Extracts of human tissues and leukocytes which were from patients who definitely did not have Hodgkin's disease but which contained many eosinophils caused reactions in rabbits indistinguishable from those caused by the lymph nodes from patients with typical Hodgkin's disease. This supports the theory that Gordon's agent and Friedemann's agent are identical and are apparently derived from the eosinophil. Histologic studies have already shown that eosinophils are easily demonstrable in the glands of some 70 per cent of patients with Hodgkin's disease, and it is in the same percentage of cases that the Gordon test is positive.

CARDIOSPASM*

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Cardiospasm may be defined as a spasm of the musculature of the cardia or epicardia sufficient to cause partial or complete obstruction to the passage of food from the esophagus into the stomach.

Cases of cardiospasm have been divided into two groups. The patients in the first group complain of difficulty with swallowing but roentgenoscopic study following a barium meal reveals nothing abnormal. No pathologic changes can be noted in the esophagus and the difficulty tends to disappear without treatment. The symptoms frequently are relieved by sedative or antispasmodic drugs or psychotherapy. The second group of patients have difficulty in swallowing associated with pain in the epigastrium, regurgitation of food, and roentgenoscopic evidence of obstruction at the cardia. The obstruction in these cases usually leads to diffuse dilatation of the esophagus. Spontaneous cures do not occur and psychotherapy and drugs are rarely of value in treatment.

The number of synonyms used to describe the condition is indicative of the controversial nature of the disease. Achalasia of the cardia, diffuse dilatation of the esophagus without anatomic stenosis, simple ectasia of the esophagus, phrenospasm, hiatal esophagismus, paralytic dilatation of the esophagus, megaesophagus, and preventriculosis are terms employed by various writers to indicate the nature of the lesion.

The majority of authors credit Purton²⁰ with having described the first case of cardiospasm in 1821, but Thomas Willis²⁵ described a case in 1679. This patient, a man, had persistent vomiting which did not respond to intensive medication. After appropriate study he was provided with a long slender whale bone, to one end of which a small sponge was attached; this was used as a ramrod to force the food from the esophagus into the stomach. The patient was observed fifteen years

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and was in good physical condition at the end of that time. It was still necessary, however, for him to use the ramrod of whale bone after each meal. Apparently the next case was reported by Hoffman⁷ in 1733, the title of his article being "*De spasms gulae inferioris et de nausea.*"

In the following half century many other writers began to recognize the condition and by 1878 Zenker and von Ziemssen²⁷ were able to collect seventeen cases from the literature, not including those reported by Willis and Hoffman. They do not record the specific treatment which was used in these seventeen cases nor their outcome; they realized, however, that cardiospasm was a serious condition with a grave prognosis. Zenker and von Ziemssen recommended improved general physical condition of the patient by tube feeding and electrical stimulation of the esophageal muscles. In 1898 Russell²³ called attention to the frequency of cardiospasm and pointed out that incorrect diagnoses were being made in most cases. He reported seven cases, six of the patients having been treated with a rubber and silk bag passed down the esophagus into the cardia and dilated with air. Good results were obtained in five of the six cases.

The use of a guiding thread, which is so valuable in the introduction of instruments into the esophagus in the treatment of cardiospasm, was first advocated by Dunham³ in 1903. This technic was popularized by Mixer¹⁵ and Plummer.¹⁸ In 1908 Plummer¹⁷ reported a series of forty cases which had been observed at the Mayo Clinic. This series has been enlarged by him and his followers and today is the largest group on record, containing almost a thousand cases. Since the first report by Plummer many workers have become interested in the condition and the literature on cardiospasm has become voluminous. A review of the literature was made by Sturtevant²⁴ in 1933.

The cause of cardiospasm is still unsettled. There have been many explanations of the mechanism by which the condition is produced, some of which are spasm of the diaphragm, pressure from the left lobe of the liver, pressure from the lower tip of the left lung, kinking of the esophagus, and fibrosis

of the peri-esophageal connective tissue. However, the most generally accepted theory and the most logical explanation is the neurogenic one, either a vagal hypoactivity or a sympathetic hyperactivity or both. This theory of autonomic imbalance is supported by experimental evidence, pathologic findings at autopsy, and the success of certain surgical procedures. Knight¹⁰ has shown that if the vagus in cats is sectioned, the animal has difficulty with swallowing. If both the vagus and the sympathetic nerves are sectioned, the animal has no difficulty with swallowing. He has shown further that if the vagus is cut first producing dysphagia, removal of the sympathetic nerves relieves the difficulty. Pathologic changes in Auerbach's plexus, thus interrupting the vagal supply to the lower esophagus, have been reported by several observers. There have been several reports of operative procedures in which the sympathetic nerve supply to the lower esophagus has been removed with beneficial results.

The basic etiology of this autonomic imbalance is unknown. Various writers have attributed it to congenital defect, trauma, bacterial invasion, toxic poisoning, severe psychic shock, or reflex irritation from some abdominal lesion such as peptic ulcer. Probably no one of them is the underlying cause in all cases. No definite predisposing factors are known and it has been shown that patients with cardiospasm are not of the psychoneurotic type.¹⁹

Cardiospasm is the second most frequent lesion affecting the esophagus, carcinoma being the most common. Cardiospasm occurs more often in men, the ratio of males to females being 60 to 40. All ages are affected, the reported cases varying from one day of age¹³ to eighty-three years.¹⁹ Some patients may be seen shortly after the onset of symptoms but most of them have suffered for years, one patient's symptoms having been present forty-eight years. The average duration of symptoms in a series of 301 cases was 7.49 years.¹⁹

The pathologic findings have been reported as dilatation, elongation, and hypertrophy of the esophagus, chronic inflammation of the esophageal mucosa, and inflammation, degeneration, and fibrosis of Auerbach's plexus.

The degree of dilatation of the esophagus above the cardia depends somewhat on the duration of the disease. The outline of the organ is fusiform, flask-shaped, or "S"-shaped. In many of the cases which have been reported the distended esophagus had a capacity of two liters. In no other lesion of the esophagus is this degree of dilatation observed. The dilatation does not extend to the cardiac orifice of the stomach but usually stops about one inch above it. Some authors believe that, as the vagus nerve maintains the tone of the esophageal musculature, the loss of tone due to interference with the vagal impulses may cause the diffuse dilatation. Frequently in the later stages of the disease the esophagus becomes elongated so that it folds on itself, forming an "S"-shaped tube.

The wall of the esophagus is usually greatly thickened in spite of the dilatation and may become as much as 1 cm. thick, the normal measurement being $1\frac{1}{2}$ mm. Most of this increase is produced by hypertrophy of the muscular layers, particularly the circular muscle, which probably is brought about by the increased effort in pushing food through the spastic cardia. A part of the increase in the thickness of the esophageal wall results from chronic inflammation of the mucosa secondary to stagnation of food in the esophagus. This inflammatory reaction is more marked in the lower half of the esophagus. The mucosa has a leathery consistency and may be studded with small areas of ulceration. Leukoplakia may be seen at the sites of ulceration which have healed.

Microscopic examination of a stained section reveals chronically inflamed and thickened mucosa with areas of ulceration and leukoplakia. Between the two layers of muscle lies Auerbach's plexus in which the most significant pathologic findings have been described by Kelly,⁹ Hurst and Rake,⁹ Rake,^{21 22} Mosher and McGregor,¹⁶ and Cameron.¹ From these reports a pathologic picture of acute inflammation in the intermuscular connective tissue with polymorphonuclear leukocytic infiltration, hyperemia, and edema may be reconstructed. The nerve cells of Auerbach's plexus become swollen. As the inflammation continues, the nerve cells show signs of granular degeneration with

nuclear fragmentation. Later there is complete disappearance of the nerve cells and fibers with compensatory fibrosis. However, it must be added that Freeman⁵ reported the findings at postmortem on a case of cardiospasm in which no demonstrable changes in Auerbach's plexus could be found. It is interesting to note that in 1913 Heyrovsky⁶ reported degeneration of the vagus nerve and its branches in a case of fatal cardiospasm.

Cardiospasm is characterized by dysphagia, regurgitation, epigastric pain, and respiratory symptoms. Difficulty in swallowing is the most frequent and usually the most important symptom. The onset usually is gradual but may be sudden. The patient can usually localize the point of obstruction at the lower end of the esophagus but at times he feels that it is in the throat or upper esophagus. At first, periods of dysphagia may be interrupted by intervals of normal deglutition but later the difficulty becomes constant. As much difficulty is experienced in swallowing liquid as in swallowing solid food.

Dysphagia is intensified by cold liquid, especially carbonated drinks, and ice cream, popcorn and apples. In many cases the obstruction may become complete so that nothing can be swallowed for several days. One patient, a woman, had taken all her food through a gastrostomy tube for eighteen years.¹⁹ At times food can be forced through the cardia in the following manner. A meal of average size is eaten, the food being retained in the dilated esophagus, after which several glasses of water are drunk in rapid succession. The patient then stands up and bracing himself, takes a deep inspiration. After closing the nasopharynx completely to prevent the escape of air, attempts at forced expiration increase intrathoracic pressure and consequently the intra-esophageal pressure, thus forcing the food through the cardia. This procedure is not devoid of danger, however, as one patient suffered spontaneous pneumothorax while utilizing it.²⁶

In the early stages of the disease regurgitation may occur immediately after food is ingested. Later the esophagus dilates and food is retained to be regurgitated after a period of several hours. Frequently at night during sleep when the constrictor muscles of the

pharynx become relaxed, the patient may awaken with his mouth and nose full of undigested food and mucus. This regurgitated material is easily distinguished from vomitus by the lack of characteristic smell and taste and by its alkaline reaction. Some patients are able to prevent regurgitation by emptying the esophagus before retiring.

Respiratory symptoms are varied. Dyspnea may be produced by pressure from a distended dilated esophagus or result from pulmonary fibrosis which follows prolonged aspiration of the contents of the esophagus. Acute pulmonary abscess or chronic pulmonary suppurative disease may follow aspiration of food.

Epigastric pain is a frequent symptom in cardiospasm and may be present many months before the onset of dysphagia. The pain usually is high in the epigastrium and may be unrelated to swallowing. It may consist of a sense of fulness or may be severe, simulating gallstone colic or angina pectoris and requiring morphine for relief. The less severe attacks of pain may be relieved by sipping warm water. In acute attacks the pain may radiate to the back, into the neck, the lower jaw or the ears. In cases of marked dysphagia the patient becomes greatly emaciated and suffers from generalized weakness. One patient lost 100 pounds in one year. Hiccough is noted frequently.

Roentgenoscopic examination after a barium meal reveals a smooth, regular, conical obstruction at the cardia with or without dilatation and angulation of the esophagus above the site of obstruction. The level of the obstruction may be at, above, or below the level of the diaphragm. Particles of food retained in the esophagus may produce defects simulating carcinoma. In passing a size 41 French sound over a silk thread through the cardia only slight resistance is encountered in cardiospasm, whereas definite obstruction is noted in benign or malignant stricture. Esophagoscopy examination is seldom required in the diagnosis of cardiospasm and should be used only when the diagnosis cannot be made by other methods.

The clinical picture is usually of such character that the diagnosis is made very easily if the condition is kept in mind. The complaint

of dysphagia over a long period of time with as much difficulty in swallowing liquid as solid food, regurgitation of undigested food, nocturnal cough, and epigastric pain are symptoms typical of cardiospasm. Roentgenoscopic study after a barium meal showing a smooth, symmetrical, cone-shaped obstruction at the cardia with or without dilatation above the point of narrowing and the passage of a size 41 French sound over a silk thread with only slight obstruction at the cardia complete the diagnosis.

Conditions from which cardiospasm must be differentiated are carcinoma, benign stricture, congenital hypertrophic stenosis of the cardia, para-esophageal hernia, shortening of the esophagus, esophageal diverticulum, mediastinal tumor, angina pectoris, and disease of the gallbladder.

Carcinoma of the esophagus usually presents a short history of progressive dysphagia in which there is more difficulty in swallowing solid food than liquid. Substernal or epigastric pain may be present but rarely occurs in the early stages of the disease. Roentgenoscopic examination after a barium meal reveals an irregular obstruction unless the obstructing lesion is scirrhus carcinoma of the stomach, in which case the obstruction is smooth as in cardiospasm. Passage of a size 41 French sound over a silk thread will reveal marked obstruction at the cardia in malignant lesions. In some cases esophagoscopy and biopsy will be helpful in the differentiation of benign from malignant obstruction at the cardia but in other instances an absolute diagnosis cannot be made. Benign stricture of the esophagus is associated with a significant history in 80 per cent of cases. Of even more importance is the fact that benign stricture usually occurs at a higher level than cardiospasm, the location of the lesion being determined readily by roentgenoscopy.

Congenital hypertrophic stenosis of the cardia is an extremely rare condition in which the musculature of the cardia is greatly thickened. Symptoms produced by this condition are similar to those encountered in cardiospasm, and roentgenoscopy reveals a smooth, symmetrical, cone-shaped obstruction without dilatation of the esophagus. This condition has been diagnosed only at operation or autopsy.¹³

Herniation of the cardiac end of the stomach through the esophageal hiatus in the diaphragm, when the esophagus is of normal length, may produce symptoms suggesting the presence of cardiospasm. In this condition pain is located under the left breast and is accentuated when the patient is in the recumbent position. Careful roentgenoscopic studies will differentiate it from cardiospasm. Shortening of the esophagus with herniation of a portion of the stomach through the diaphragm may be differentiated from cardiospasm by roentgenoscopic study and esophagoscopy.

A diverticulum occurring just above the cardia rarely produces the same type of symptoms which are present in cardiospasm, and the differentiation of the lesions can be made by roentgenoscopy. Cardiospasm and cholelithiasis are easily confused if the outstanding symptom is epigastric pain, and this confusion is increased by the fact that mild dysphagia often occurs in gallbladder disease. However, the absence of jaundice, the frequent attacks of pain without tenderness over the gallbladder, and dysphagia should suggest that cardiospasm is responsible for the symptoms. Pulmonary tuberculosis has been confused with cardiospasm when the patient's outstanding symptoms were loss of weight, weakness, fever, cough and expectoration.

The most desirable form of treatment is forceful dilatation of the cardia. Various instruments are available for this purpose, such as the metal sound on a whale bone staff, the mercury-filled bougie, and the Russell-Plummer hydrostatic dilator. The first procedure in the treatment of a patient with cardiospasm is the introduction of a twisted silk thread through the esophagus into the stomach and small intestine to be used as a guide in passing dilators through the cardia. The patient is instructed to swallow the thread at the rate of one foot per hour; if swallowed in this way it will not become tangled in the esophagus or stomach but will pass into the small intestine and remain taut. After fifteen or twenty feet have been swallowed it can be used as a guide. The thread is easily swallowed if placed on the back of the tongue and small sips of water are taken. More thread is introduced into the mouth as the free end is

carried down the esophagus. The patient should be cautioned against chewing it as this will weaken the thread so that it may break during instrumentation. Before attempting to use it as a guide, the index finger of the left hand should be inserted into the patient's mouth under the thread while traction is made on it with the right hand to ascertain that it has passed into the intestines and has not tangled in the esophagus or stomach.

Fluoroscopy may be helpful in introducing the dilator into the cardia, but the disadvantages of working in a dark room are too great to make it advisable. When the dilator is in place the cardia is dilated to a pressure of twenty to twenty-five feet of water and this pressure is maintained for ten seconds. Following this the dilator is removed and the thread cut.

A special chair for treatment is advantageous. The chair should be low with a concave seat and convex back which forces the patient to bend forward and prevents him from straightening his body during instrumentation. Anesthesia is not employed during treatment as epigastric pain is a helpful indication that the cardia is being dilated. Another contraindication to the use of anesthesia is constant regurgitation of food and mucus from the esophagus during treatment. For this reason the patient should not be given food by mouth for twelve hours preceding dilatation.

After the thread is anchored in the intestine a size 41 French sound should be passed through the cardia to confirm the diagnosis. If the sound can be passed into the stomach with only slight resistance, it should be withdrawn and a size 60 French sound should be introduced into the stomach. Resistance at the cardia is rarely encountered in passing sounds but dilatation of the area of spasm may be followed by rather acute epigastric pain. Dilatation with a size 60 French sound should always precede stretching of the cardia with an expanding dilator as many patients obtain temporary or complete relief from dysphagia by means of the dilatation with the sound. Without this dilatation mediastinitis from a split of the esophagus just above the cardia will develop in 1 per cent of the

number of patients in whom forcible dilatation is employed. Splitting of the esophagus rarely occurs when the cardia is dilated with an expanding dilator after the passage of a size 60 French sound has failed to relieve the symptoms. Following the withdrawal of the sound the thread should be cut and swallowed.

If after the lapse of several days the patient has not been relieved of his symptoms by the passage of a size 60 French sound, an expanding dilator should be used to stretch the cardia. A few patients will not be relieved completely by a single dilatation and the stretching must be repeated. Others may obtain temporary relief but have recurrence of symptoms within six months' time after treatment, when relief usually is brought about by additional dilatation. The only serious complication in treatment is splitting of the esophagus followed by acute mediastinitis and rapid death. The possibility of such an accident is practically eliminated, however, by the preliminary dilatation with a size 60 French sound.

Although the theoretical mechanism of this treatment is not definitely known, the practical results are spectacular. Immediately after dilatation the patient is able to swallow with ease. The weight which has been lost is regained with surprising rapidity, one patient having gained twenty-two pounds in five days following dilatation. Regurgitation ceases and respiratory symptoms disappear in a short time. Diffuse dilatation of the esophagus may remain but produces no symptoms as the food passes rapidly through the esophagus into the stomach.

In about 75 per cent of the number of patients who have this treatment relief is permanent following the first dilatation and a majority of those with recurrence can be cured by further stretching of the cardia. Occasionally a patient will be encountered whose symptoms are not relieved by many dilatations.

Proceeding from the explanation that autonomic imbalance is the cause of cardiospasm, there have been two different operations which have been performed to interrupt the sympathetic nerve supply to the esophagus. Craig, Moersch and Vinson² reported a case in which bilateral cervicothoracic sympa-

thetic ganglionectomy was performed on a patient whose symptoms were not relieved by eleven dilatations. The patient obtained partial relief but a bilateral Horner syndrome was also produced. Knight,^{10 11} Knight and Adamson¹² of England and Eliason and Erb⁴ in this country have reported cases in which they removed a section of the left gastric artery together with the sympathetic nerve fibers, which run from the celiac plexus to the esophagus, with relief of the patient's symptoms. It must be pointed out, however, and emphasized that these procedures are major operations and should not be considered until repeated dilatation has been tried.

Various types of plastic operations on the cardia have been employed for the relief of cardiospasm but they have resulted fatally in many instances and should rarely, if ever, be required in treating patients with this condition.

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CHRONIC UNDERMINING ULCERS*

Case Report

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Among the various ulcerous infections found may be noted three surgical types. One is handled simply by incision of the focus and release of the infected material, which suffices to clear up the condition. Another presents a lesion which is greatly aided by surgical drainage, but is slow in healing. The other is an infection which, in spite of ample or radical surgical treatment, continues to progress uninhibited.² It is this last type of ulcer we are particularly interested in.

Judging by the literature, which is quite scanty, practically all of the credit for the original work in this field goes to Dr. Frank L. Meleney of New York. He and his co-workers have within the past ten or twelve years ferreted out the essential problems of this infection. As far as I have been able to ascertain there have been twenty-seven cases reported. I have had one which, with another by Waas,⁷ makes a total of twenty-nine.

Clinically the lesions all seem to be typical,^{1,2,3,4,5,6} and the name chronic undermining burrowing ulcer is self-explanatory: they present an ulcerative area with undermined, rolled-in, skin edges. The center of the ulcer consists of dirty, greyish granulations, rather gelatinous in appearance and occasionally with small hematomas. The infection burrows under the skin, apparently liquefying the subcutaneous fat and connective tissue; it will ulcerate through the skin and form a daughter ulcer in the vicinity of the original lesion, being connected subcutaneously. Over this burrowed area the skin liquefies and the edges roll in until there may be a small bridge of epithelialized tissue on the deep surface. If left alone the ulcerative process will connect both ulcers into one. Also the burrowing mechanism will proceed along fascial planes between muscles and along the larger vessels, occasionally producing erosion of one of these.⁶ It may also spread by autoinoculation. Some of the cases

reported are characterized more by undermining and burrowing than by ulceration, the site of the infection probably controlling this latter feature.⁶

Of the cases with which I am familiar about half have occurred postoperatively, and most of these following elective surgery. About 30 per cent have arisen, through lymphatic metastasis, in the neck, axilla or groin from a distant abrasion or other point of infection. Other modes of onset include direct abrasion, puncture wound, and infected hair follicles which were incised.

The causative agent in these ulcers is the micro-aerophilic hemolytic streptococcus, which is a peculiar and interesting organism. Unless cultured anerobically it may not grow. However, it is not a true anerobe, for after successive culturing it will become aerobic in character. The infected wounds, after treatment with zinc peroxide, show a marked diminution and finally an absence of the anerobic hemolytic streptococcus, but there appears in its place a green aerobic, non-hemolytic streptococcus. As would be expected, there is also mixed infection found in these lesions, but it has been fairly well established that the essential organism causing them is the anerobic micro-aerophilic hemolytic streptococcus.

The diagnosis of chronic undermining ulcers can be made clinically with a fair degree of accuracy. Nevertheless, whenever facilities are available for methods of anerobic culturing advantage should be taken of them. It is satisfying for us to know exactly with what we are dealing, and it is particularly gratifying for us to be able to control and subdue the common enemies of mankind.

After the diagnosis is made treatment of these lesions is complete excision of the ulcerated area, its pockets, sinuses and connecting ulcers. Bleeding is controlled by ligation. Following this a creamy suspension of zinc peroxide in distilled water is used. The wound is flooded with this suspension and covered with coarse meshed gauze saturated with the same material, and is in turn covered with zinc oxide or vaseline gauze to prevent drying. The wound should be cleansed daily with saline, and the process repeated. It is

*Read before the Medical Association of Georgia, Augusta, April 28, 1938.

important that the zinc peroxide come in contact with every area of the wound. To the more inaccessible regions it should be applied carefully with small applicators or a toothpick. When the anerobic cultures become negative and fresh granulations grow up the wound may be grafted. Usually pinch grafts are employed. After twenty-four hours of saline dressings the grafts, held in place with coarse meshed gauze, are covered with the suspension of zinc peroxide, and this should be continued until the area is completely epithelialized. "If zinc peroxide is used without a preliminary bacteriologic study, prognosis as to its effectiveness must be guarded."²

Zinc peroxide is a finely ground white powder, which when mixed in a test tube with about ten times its weight in water will settle out rapidly, leaving a clear supernatant fluid. Within the course of about an hour the sediment gives off oxygen and forms a flocculent mass which rises in the tube and continues to give off bubbles of oxygen for twenty-four hours or more.^{2 5 6}

During the evolution of the use of zinc peroxide in the treatment of these infections, much difficulty was encountered in the efficacy of the compound.⁵ It developed that certain batches of the material were ineffective in controlling the infection, bringing about disastrous results, while others produced remarkable benefit. The ineffective material will settle out more slowly, leave a cloudy supernatant fluid and will not give off oxygen bubbles to any appreciable degree. The Dupont Company has been working with Dr. Meleney in an effort to standardize zinc peroxide as an effective oxygen liberating compound and has been successful the past few years.⁵ Zinc peroxide is not chemically pure, containing only about 50 per cent zinc peroxide, with lesser quantities of zinc oxide, zinc hydroxide and zinc carbonate.

Case Report

E. H. G., male, aged 70, was treated in another state, supposedly for diabetes. The bone in his left forefinger was amputated in February 1936. He stated that on the fifth postoperative day, when the dressing was removed, the skin came off the entire back of his hand. His wound was treated with various antiseptics and decreased in size, would get better, then worse, never healing over. He was treated by two or more physicians until September 1936, when I saw

him. At that time he had a painful ulcerative lesion about 2.5x3 cm. on the dorsum of his left hand, situated somewhat laterally over the second metacarpal region. His left second digit had been amputated at the metacarpo-phalangeal joint and the stump was healed. The ulcerative area was irregular about the edges with shaggy, greyish, and hemorrhagic appearing granulations. The skin edges were turned in. General physical condition was normal for a man of his age. Blood pressure, temperature, head, ears, eyes, nose and throat normal. There were several carious teeth; and infected gums. Heart and lungs normal. Abdomen was normal. Blood count normal. Urine was negative—no sugar (repeated tests), no albumen, microscopic negative. Blood Wassermann negative. A smear from the wound showed mixed streptococci, staphylococci, and some bacilli. He was treated with the usual run of antiseptics, mild and caustic, until I found my first clue to a diagnosis in a textbook.⁴ In this I misunderstood the description of zinc peroxide and ordered a powder containing 50 per cent zinc peroxide, 25 per cent zinc oxide and 12.5 per cent each of zinc carbonate and zinc hydroxide. Now I know that the efficiency of the material was definitely decreased by this error. The whole area of infection was not excised, but the undermined skin edges were kept trimmed back, and when new pockets appeared they were opened and connected with the main ulcer.

The patient was ambulatory throughout, but at times complained of excruciating pain in his hand. Treatment with zinc peroxide was done almost daily for about 4 months and later at intervals of 2, 3, and 4 days. I observed upon ordering new quantities of zinc peroxide that the wound did regress over periods of time. This bears out the observation in the literature.⁵ However, the wound healed slowly and toward the end I alternated the use of acriflavine applications, 1:1000, with an ointment of zinc peroxide in boric acid ointment. The patient was dismissed in June 1937, nine months after beginning treatment and about sixteen months after the onset of his condition. Although the diagnosis was not proved bacteriologically, I feel justified in making it because of the clinical course and appearance of the disease.

Summary

Within the past ten or twelve years a comparatively rare and hitherto undiagnosed type of surgical infection has been described.

The causative agent is the anerobic microaerophilic hemolytic streptococcus.

When properly diagnosed and handled the disease can be controlled with zinc peroxide if treated early.

It is important that the zinc peroxide used be tested for effectiveness in liberating oxygen.

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6. Pennoyer, Grant P.: The Value of Zinc Peroxide in the Treatment of Chronic, Undermining Burrowing Ulcer Due to the Micro-Aerophilic Hemolytic Streptococcus. Amer. Jour. Surg., Vol. 106, No. 1, pp. 143-145.
7. Wass, Frederick J., Jacksonville, Fla.: Personal Communication, (March) 1938.

DISCUSSION ON PAPER OF DR. CHARLES R. ANDREWS

Dr. Charles E. Rushin (Atlanta): In many years of observation of various types of ulcer, to my knowledge I have never seen one of this type. It seems from his report he apparently had the type of infection that Dr. Meleney described, though no cultural proof of the clinical symptoms seemed to point toward it. Perhaps in the future we will be more on the lookout for this kind of infection and there will be more cases reported.

I understood the Doctor to say that there were only 29 cases reported in the American literature at the present time. Therefore it must be very rare.

I am very much surprised that he didn't try sulfanilamide as the previous paper seemed to indicate it was very good for various types of infections.

Dr. Lon Grove (Atlanta): I think this condition is of such extreme importance as to warrant our putting on record a patient we treated five or six years ago. This was a woman referred by Dr. Herbert Rosenberg. This type of infection seems to spread along the fascial planes and is slow to invade the muscle. It at times spreads very rapidly and may undermine the skin for a distance of one inch or more during twenty-four hours. In our patient the infection first had the appearance of a small carbuncle measuring approximately 1.5 cm. in diameter but by the end of a week or ten days it had extended over practically the entire left scapula region. The wound was first treated with compresses of sodium perborate solution but this did not appear to control the spread of the infection. We then adopted the procedure as described by Dr. Horsley (under gas anesthesia, using the coagulating blade, we went wide of the infected area incising all the tissues down to the muscle). This was followed by protective dressings of warm saline solution. The wound then granulated rapidly and was later closed by skin graft.

I believe this to be the best and quickest form of treatment. One should be careful to go wide of the infected area and do a thorough debridement, using either the actual cautery or the coagulating blade.

As said in the beginning, these cases are very distressing, demand prompt action and I think the Doctor should be congratulated for presenting his case.

The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.

DIAGNOSIS OF CANCER*

In last month's *Journal* the causes of error in diagnosis and treatment of cancer, both by the patient and doctor, were discussed. As an aid in the early diagnosis of cancer the following brief outline is given which, if followed, should be of value in the early recognition of this disease.

Mouth — *Examine lips, buccal and pharyngeal membranes for ulcerations or nodules, and the cervical lymphatic areas for glandular enlargement.

Throat—Any patient with unexplained hoarseness of over one week's duration should be examined by an expert laryngologist.

Skin—Examine skin for new-growths, bleeding ulcerations or scaly dry crusts. Black moles need especial consideration and expert advice.

Breasts—Examine female breasts (and occasionally male) for lumps and for serous or bloody discharge from nipple.

Stomach—Inquire minutely into symptoms of digestive disturbances, and if you cannot relieve in a very short time, advise x-ray examination.

Colon and Abdomen—Examine carefully any patient with fairly rapidly increasing constipation, including digital rectal examination, stool examination for occult blood; and, if indicated, with x-ray barium enema.

Rectal—Rectal bleeding demands: First, digital examination. If indefinite make examination with proctoscopy. If no cause for the bleeding is found on these two methods, then x-ray barium enema should be advised. Barium enema should never be given until the rectum has at least been examined digitally.

Pelvis—Bimanual pelvic examination as a routine. Note mobility, size and shape of uterus, appearance of cervix with especial attention to erosions. Note enlargement or tenderness of adnexa. If there is a history of abnormal bleeding, not definitely accounted for by above examination, advise diagnostic curettage.

Kidneys — If patient has had urinary bleeding advise immediate cystoscopy.

Chest — General examination should include chest if there is a cough, abdominal palpation, examination of subcutaneous tissues and bones for possible tumors.

THE PRESIDENT'S PAGE

SOLVING OUR PROBLEMS

The physicians of this country give free service each day to indigent patients which amounts to more than a million dollars. No wonder this is true when we look at the estimates of annual income made by the National Resources Committee, which reveal the following:

One-third of all American families and individual consumers have an average annual income of \$780.

The great middle class has an annual income ranging from \$1,070 to \$1,450.

Incomes of \$10,000 and more are limited to 1 per cent of our people.

To give more adequate medical service to all the people of our State is a problem which cannot be solved in a day. In my opinion we must concentrate on each of the following problems:

Public Health—Expand all public health activities throughout the State. I believe the State should bear the total expense of the health program and that counties should not be called upon to make financial contributions. More money will be required to carry through such a program, but why waste public funds sending sick children to school when certain diseases can be prevented, and physical defects remedied?

Appropriations should be increased for cancer control, not only to pay hospitals, pathologists and radiologists; but to pay the surgeons for their services. Dr. J. L. Campbell of Atlanta, representing the Cancer Commission of our Association, the Women's Field Army and our Woman's Auxiliary are to be commended for their untiring work in behalf of cancer patients.

Expansion of the programs for crippled children, the blind and the deaf are desired.

Hospitals—Towns, counties and the State should help establish more small community hospitals where needed, in cooperation with county medical societies. This can be done if our constitutional amendment is approved by the people.

Group hospital insurance should be made available to all of our people. The plan sponsored by Dr. L. C. Fischer of Atlanta, who deserves much credit for his work, could be expanded so that the smaller hospitals could participate in the service. Of course, under the law each hospital must be approved for



the protection of the public, and all plans must have the approval of the local medical society. But if the larger hospitals would take the lead in such a program and would assume the responsibility for administrative units, then the small hospitals could follow. In my opinion, the Georgia Hospital Association and our Association should take advantage of this golden opportunity to stimulate higher standards for our small hospitals and at the same time help them start hospital insurance plans.

Medical Education—A plan to give medical students state aid in students' tuition and fees, provided they would agree to go back to the rural districts and practice medicine for a certain number of years, would aid materially in supplying physicians to areas now in need of them.

Public Relations Bureau—Activities of this Bureau should be increased to include each county medical society. The Hall of Health which was sponsored by the Fulton County Medical Society at the Southeastern Fair in Atlanta last month was a fine example of what can be done to inform the public of matters concerning health. Other county medical societies should make the effort to sponsor similar programs. In addition, each society could do much to clarify our position in public affairs if it would hold a special meeting and invite to the meeting the legislators, discussing with them the value of the Basic Science Bill and any other bills relating to health. Suggestions for such meetings may be had by writing to the Secretary, 478 Peachtree Street, N. E., Atlanta.

GRADY N. COKER, M.D.

THE JOURNAL

OF THE

MEDICAL ASSOCIATION OF GEORGIA

Devoted to the Welfare of the Medical Association of Georgia

478 Peachtree Street, N. E., Atlanta, Ga

NOVEMBER, 1938

THE USE OF PITUITARY PREPARATIONS DURING THE SECOND STAGE OF LABOR*

Authorities universally criticize the use of posterior pituitary extract in the therapeutic regimen of labor prior to the birth of the head. Some physicians, however, are using this drug in the first and second stages of labor in the belief that it is indicated in uterine inertia. It has even been given within three hours after the very first labor pain. What is uterine inertia? It is the prolongation of labor by ineffective uterine contractions. Early in the first phase this may be due to weak infrequent pains. Again labor may start in the typical manner and then cease to progress due to faulty contractions. These may or may not be less frequent than normally, but they are painful and cramp-like in character. As shown below, a drug which whips is definitely not indicated when an incoordinating hyperirritable uterus has ceased to make progress due to the faulty contractions.

Concerning the dangers of using posterior pituitary preparations in the second stage of labor, Drs. Davis, Adair and Pearl, writing in the Journal of the American Medical Association in 1936, stated: "Its use is fraught with great danger for the patient and her baby. Uterine tetany, abnormal uterine motility with possible complications at delivery and intra-uterine asphyxia of the baby are not uncommon sequelae. Rupture of the uterus is a real danger. Because of these untoward complications posterior pituitary extract as well as ergot must be omitted from the therapeutic regimen of this stage of labor." Obstetrical textbooks state that the use of pituitary extract before the delivery of the fetus is reprehensible and has been abandoned by the experienced obstetrician.

Our interest in this subject first dates from the Atlantic City meetings in 1937. At that time Dr. DeLee suggested that with the Hamilton "hypodermic manometer" we should study the effects of pituitary preparations during the second stage of labor in humans. When the dangers of using this drug at this stage were stated, his answer was: "I realize only too well its dangers, but some physicians are using it in the second stage of labor and think it is safe. In your experiments, if it should cause the death of a baby, the contribution to the progress of medicine would be worth the price."

Since our results condemn the use of pituitary preparations in the second stage of labor and since some physicians are still using it in that stage, this preliminary presentation of our results is given in this Journal.

The "hypodermic manometer" developed by Dr. Hamilton, of the University of Georgia School of Medicine, enabled us to measure the effective maternal blood pressure which supplies maternal blood to the placenta. We have recorded this effective pressure as well as the uterine pressure when pituitary preparations in one minim doses were given to three multiparous patients. Luckily no fatalities have occurred in these experimental studies.

Our results show that intra-uterine asphyxia and uterine tetany are real dangers associated with the use of pituitary preparations in the second stage of labor. In all three cases it reduced markedly the effective blood pressure to the placenta, and produced incomplete uterine tetany which lasted from seven to twelve minutes. In one case intra-uterine asphyxia of the baby nearly occurred. The effective maternal placental blood pressure in this case averaged 85/50 mm. Hg between pains and 65/15 during pains. Pituitary extract reduced this to an average of 30/-10 mm. Hg for ten minutes and it stayed low throughout the remainder of labor. At one time this effective pressure was reduced to 5/-25 mm. Hg (+ 5 systolic and 25 mm. Hg below zero diastolic pressure). This meant that the uterus was so contracted that maternal arterial blood not only could not enter the placenta, but that the uterus was actually squeezing blood from the placenta

*From the Department of Physiology and Pharmacology, University of Georgia School of Medicine, Augusta.

into the aorta as well as into the veins. The maternal blood supply to the placenta was stopped. The baby's heart sounds became slow and faint and at one time we were not sure that we could hear them. Fortunately the uterine tetany subsided somewhat, the effective placental pressure gradually increased to nearly normal and the child's heart sounds became louder and regular.

In all three cases the average uterine contraction increased the intra-uterine pressure from 12 mm. Hg between pains to 55 mm. during the pains. Pituitary extract produced severe cramp-like pains and incomplete tetanus. The intra-uterine pressure increased to and remained at 90 mm. Hg until short periods of relaxation gradually started to appear. It required an average of ten minutes for the pains to return to their normal character.

When pituitary extract does this to a normal parturient uterus, what would it do to one with uterine inertia where the pains are not accomplishing anything because they are cramp-like in nature and incoordinated? What does a whip do to a frightened, overly irritable and incoordinated animal? The same thing. Yet, some physicians are giving the whip (pituitary extract) to patients with uterine inertia during the second stage of labor. Oh yes, they get hard contractions, but they are tetanic in nature. Any obstetrical textbook states that tetanic uterine contractions themselves are useless in expelling the baby. Of course the very severe pain of the tetanus may cause the mother to groan and use her abdominal muscles to the utmost and thereby effect delivery.

When such severe tetanic contractions produced by a whip fail to deliver the child, the physician may then be responsible for producing an abnormal labor as many hospital records will show. A Bandl's ring may appear and, if it persists, labor is a long drawn out difficult procedure. Rupture of the uterus occasionally occurs. Frequently the physician will use forceps. This in turn subjects the baby and mother to additional unnecessary trauma and dangers.

It is such meddlesome unwarranted procedures as the use of pituitary preparations before the completion of labor and the use of

forceps to hasten an otherwise normal delivery that cause our physicians to have a morbidity and a mortality rate higher than the midwives of the continent.

Georgia has a white maternal death rate 40 per cent above that of the national average, though the colored maternal death rate is the same as the national average. Our infant death rate in urban areas is 3 per cent above the national urban rate, while in our rural areas it is just 10 per cent above the national rural rate. It is in our towns that our mortality and morbidity rates are shameful.

More extensive studies on this problem are in progress and will be published at a later date jointly with Dr. W. F. Hamilton and Dr. Richard Torpin.

R. A. WOODBURY, M.D.

HOSPITAL FACILITIES IN GEORGIA AND PROPOSED CONSTITUTIONAL AMENDMENT*

There are many counties in the United States without adequate hospital facilities, and some states have no legal method of paying neighboring counties for such service. The State of Georgia falls into the latter class, as we have no law permitting county commissioners or anyone else to appropriate or set aside funds with which to pay for hospitalization outside of their respective counties.

We greatly need a remedy for this situation, as anyone who has any knowledge of conditions in the free wards of Savannah's hospitals knows. Bryan, Liberty, Screven, Effingham and other counties have no hospitals, and no provisions for taking care of anyone needing hospitalization. There is a large indigent population in this section, and as a result our hospitals are constantly burdened by the helpless residents of other counties. We cannot refuse admittance to the seriously ill, but in so doing our own poor are deprived of what the citizens of Chatham County provide for them.

A remedy is at hand, if the voters will inform themselves as to these facts and cast their vote on November 8th in support of the amendment to the Constitution designed to remove this handicap. Help us in our effort to give better medical service by providing a way for everyone to get adequate medical attention. Vote for the adoption of the amendment.

*A synopsis of an address by William H. Myers, M. D., Savannah, before the Georgia Medical Society, Savannah, October 25, 1938.

The American Medical Association will hold its ninetieth annual session at St. Louis, Missouri, May 15, 16, 17, 18, 1939.

GEORGIA DEPARTMENT OF PUBLIC HEALTH

T. F. ABERCROMBIE, M.D., *Director*

GEORGIA'S OBSTETRICAL LIFE LOSS

The fact that the maternal mortality rate in Georgia shows a downward trend for the past few years is no reason to assume that our maternal health problems are adequately met. Rather should it lead to further careful appraisal of the possible ways in which our efforts, individual and cooperative, can contribute to further conservation of life and health. Before us is proof that mortality can be reduced under recent and present economic and social conditions, and our still high rate is a challenge to the profession and the public to do just that.

Morbidity aside, the obstetrical life loss alone in Georgia is costly to a shocking extent. In addition to maternal deaths, one must consider stillbirths, most deaths within the first week of life, and a considerable number of other infant deaths as attributable to natal and prenatal causes.

During the past five years in Georgia there has occurred an annual average of:

475 Maternal deaths
3,816 Stillbirths
1,087 Infant deaths on the first day
838 Additional infant deaths during the first week
An annual average of 6,216, or 17 deaths per day.

In 1936, the rate of these deaths per 1,000 live births was as follows:

8.2 Maternal death rate
59.5 Stillbirth rate
31.2 First week death rate

In Georgia the cost of reproduction in lives may be expressed as 10 per cent of all births. An ad valorem tax rate of 100 mills in any Georgia locality, I am sure, would be productive of much alarm and some ire, to say the least. Yet there is a tax of 100 deaths for every 1,000 new lives that is viewed by some informed individuals with indifference, and by some few with comparative complacency.

It is of interest and importance to consider what evidence there is at hand concerning the causes of death in these groups. The annual report of the Committee for Study of Maternal Mortality of THE MEDICAL ASSOCIATION OF GEORGIA, published in this Journal every July or August, makes a thorough analysis of information secured by questionnaire into each death. These reports for the past three years (averaged) indicate the following as the principal causes of maternal deaths:

Eclampsia and albuminuria 32 per cent of total
"Obstetrical" sepsis (excluding abortion) . . . 26.8 per cent
Abortion (sepsis and hemorrhage) 11.5 per cent
"Obstetrical" hemorrhage (including pla-

centa previa, premature separation, and post partum hemorrhage) 11.0 per cent
Accidents of Labor 3.7 per cent

Abortion omitted, the remaining common causes account for over 75 per cent of deaths. It is obvious that each is either highly preventable or subject to recognition and control by well known procedures. Nearly 60 per cent of maternal deaths are due to conditions (toxemia and sepsis) of an unspectacular nature and rarely demanding heroics.

It is impossible to secure as thorough a study of causes of stillbirths and neonatal deaths. There is, however, abundant evidence that the following are the major causes:

Stillbirths:

Prenatal syphilis
Toxemia of mother
Other maternal complications
Birth trauma

Deaths of newborn:

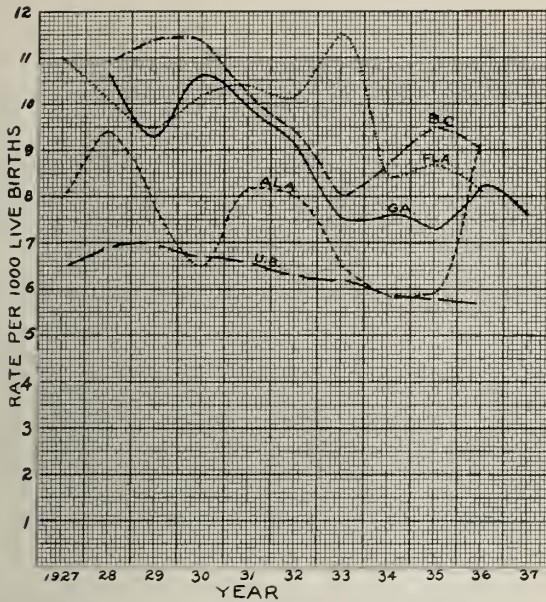
Prematurity
Cerebral injury
Pneumonia (non-specific infection, aspiration, rough handling)
Asphyxia and atelectasis

It is necessary only to glance at the above list to realize how truly obstetrical are these causes of death.

In 1935 of all maternal deaths in third trimester of pregnancy, 37 per cent were accompanied by stillbirths. This does not take into account the infants who lived only a few minutes or hours. It has been shown that maternal mortality accompanying stillbirths is 21 times that associated with live births; also that the maternal death rate associated with premature labor is 7 times that of cases reaching term.

In 1935, mothers dying who should have had prenatal care and had none whatever amounted to over 63 per cent. In 1937 this proportion was over 50 per cent. It is gratifying to note that there is a much greater appreciation of the vital need for prenatal care on the part of the public. A great number realize that it should be instituted early. A fewer number have a fair conception of what is adequate. More Georgia women than ever before know when they are *not* getting it.

The best of prenatal care alone cannot control some of these principal factors. It can accomplish a great deal, however, as has been repeatedly demonstrated. Certainly printed advice can be given to every expectant mother by her physician. (The Georgia Department of Public Health supplies such a booklet free of charge.) The personal conference with persistent individualized advice



Maternal mortality rate per 1000 live births.
Rates for Ala., Fla., S. C., and U. S. for 1937 not available.

to each mother is an aspect too often referred to one less able than a physician or nurse. It is an annoying detail, but there is no substitute.

Complete and conscientious observation at frequent regular intervals nearly always insures early detection of abnormality and the opportunity for early treatment. Once abnormality presents, however, it must necessarily follow that control measures be sufficiently immediate to make use of the advantage afforded by early diagnosis. Nowhere can this be more true than in the case of toxemia. While the keynote of control is conservatism, this is all too often construed to mean complete inactivity. Late gestational toxemia demands treatment and promptly; it further demands response to treatment, and failing that, the avoidance of prolonged temporizing. Similarly is intelligent activity needed early in case of maternal lues, maternal nephritis, and antepartum hemorrhagic symptoms.

It is doubtful if we have come near to utilizing fully prenatal instruction in the prevention of puerperal sepsis. Printed instructions and detailed advice on the proper equipment and supplies for aseptic confinement in the home are frequently lacking. The avoidance of proximity to disease and conditions associated with upper respiratory infections, streptococci and other pyogens, should be stressed; likewise the dangers of any vaginal insertion in the latter weeks.

Frequently in the course of a labor, the attendant is forced to take short cuts or allow lapses in asepsis, many of which could be avoided on the next occasion by forethought and the adopting of an inexpensive, possibly

crude, but safe alternative. Such constant adaptations are products of the true "aseptic conscience."

It would seem that every accoucheur should familiarize himself with abdominal and rectal observation of the progress of labor, or else conscientiously penalize himself to the extent of *absolute* preparation of the vulva, his hands, and gloves before each and every vaginal examination.

Elimination of these deaths calls for the constant application of common, drab, monotonous, oftentimes uninteresting and burdensome routine of: patient and repeated instruction, frequent time-consuming observations, fastidious attention to details, an ever-alert aseptic conscience, and the timely institution of control measures. This involves innumerable unsung services and sacrifice of time on the part of the physician. It is evident that this contribution is and will continue to be forthcoming.

H. J. BICKERSTAFF, M.D.
Division of Child Hygiene

NEWS ITEMS

DR. EVERETT L. BISHOP, Atlanta, attended the recent meeting of the Committee on Bone Sarcoma of the American College of Surgeons in New York City. The Committee recommended certain changes and modifications in the classification of bone sarcomas which were adopted and will be published at an early date.

THE SPALDING COUNTY BOARD OF HEALTH in cooperation with the State Department of Public Health conducted a tuberculosis clinic at Griffin on October 20.

DR. ROY R. KRACKE, Emory University, was the principal speaker at the University Auditorium in an open forum on *Socialized Medicine* on October 19.

DR. G. LOMBARD KELLY, Augusta, spoke at a meeting of the Association of American Medical Colleges, Syracuse, N. Y., on *Home Visits by Medical Students as a Teaching Asset*, October 25.

DR. J. D. APPLEWHITE, Macon, Macon-Bibb County health officer, has requested the parents of all children in the county who have remedial physical defects to provide treatment immediately after they have been notified.

DR. ROY R. KRACKE, pathologist at Emory University School of Medicine, has just returned from the East where he delivered a number of lectures on *Different Phases of Blood Diseases*.

DR. CHAS. C. HARROLD, Macon, spoke before a meeting of the Macon Exchange Club, October 25, on *The Need for Increased Facilities for Caring for the Poor Who Need Medical Treatment*.

DR. FRANK K. BOLAND, Atlanta, has been re-elected a member of the Board of Governors of the American College of Surgeons. He has served three terms, nine years, and elected for the fourth three-year term.

WOMAN'S AUXILIARY: OFFICERS 1938-1939

President—Mrs. Warren A. Coleman, Eastman.
 President-Elect—Mrs. Eustace A. Allen, 18 Col-
 lier Road, N. W., Atlanta.

First Vice-President—Mrs. H. G. Banister, Ila.
 Second Vice-President—Mrs. Jas. L. Nevil,
 Metter.

Third Vice-President—Mrs. D. T. Rankin, Alto.

Parliamentarian—Mrs. Ralph H. Chaney, Forest Hills, Augusta.

Recording Secretary—Mrs. Cleveland Thompson,
 Millen.

Corresponding Secretary—Mrs. J. Cox Wall,
 Eastman.

Historian—Mrs. C. C. Brannen, Moultrie.

Treasurer—Mrs. Robert Woodbury, Augusta.

Tenth District

Dr. Grady N. Coker, president of the Medical Association of Georgia, brought a message, "Our Local Problems," to the Woman's Auxiliary of the 10th District Medical Association at Washington.

Mrs. Eustace Allen of Atlanta, president-elect of the State Medical Auxiliary, talked on "Loyalty to Our Auxiliary," urged members to be active and informed on needs around them.

Dr. Coker mentioned that our first problem was to get the different local auxiliaries to enlist new members that more efficient work can be done. That we need to work toward getting the Ellis Health law in each county; that the infant mortality rate in the State is entirely too high; that malaria and typhoid cost the State thousands of dollars each year and many children fail to pass their grades each year because of preventable diseases, were some of the local problems the speaker pointed out that the Auxiliary could help to solve.

Miss Fannie B. Shaw, director of the Division of Health Education of the Department of Public Health of Georgia, suggested to the Auxiliary the best ways they could serve their local communities: "Serve on health committees in your community. Get acquainted with the health problems in the State. Render assistance to those who teach health in the schools. Supply health material for the school library."

Dr. Ross Brown of Atlanta, assistant director of Venereal Diseases of Georgia, made the arresting statement that venereal diseases are alarmingly on the increase in Georgia.

The meeting was presided over by the President, Mrs. Stewart D. Brown of Royston.

Mrs. Frank Thomas of Washington rendered "Impromptu," a piano solo; and Miss Mary Stewart Brown of Royston sang, "When I Have Sung My Songs" and the "House on a Hill" both by Ernest Charles. Miss Brown was accompanied on the piano by Mrs. W. D. Gholston of Danielsville.

The President appointed the following as chairmen of the different committees: Student Loan, Mrs. Lewis Patton, Athens; Health Films, Mrs. Weyman Davis, Athens;

Public Relations, Mrs. G. L. Loden, Colbert; Legislation, Mrs. Lombard Kelley, Augusta; Press and Publicity, Mrs. H. W. Birdsong, Athens; Doctor's Day, Mrs. C. M. Burpee, Augusta; Research in Romance of Medicine, Mrs. D. V. Bailey, Elberton; Jane Todd Crawford Memorial, Mrs. G. W. Kelley, Carlton; Health Education, Mrs. L. L. Whitely, Crawford.

Troup County

The Woman's Auxiliary to Troup County Medical Society met at the home of Mrs. James Holder on September 16 with Mrs. Holder, the president, presiding. The minutes of the January meeting were read and approved. The program of the Woman's Auxiliary to the Medical Association of Georgia for 1938-39 was read and committees appointed to serve for the year in the various projects suggested by this program.

Plans were discussed for raising funds to complete payment on the shrubbery planted at the new City-County Hospital. Mrs. Kenneth Grace was welcomed as a new member. Delightful refreshments were served at the close of the meeting, which was attended by 11 members. New officers are Mrs. J. S. Holder, LaGrange; Mrs. S. C. Rutland, vice-president, and Mrs. E. C. Herman, secretary.

Fulton County

The Woman's Auxiliary to the Fulton County Medical Society resumed its work after a summer of inactivity with the September meeting, held at the Academy of Medicine in Atlanta. Mrs. B. L. Shackelford, president, presided. Dr. S. A. Kirkland gave a most comprehensive discussion on the basic science law and Mrs. James N. Brawner, Sr., reported on the interesting meeting held in San Francisco by the Woman's Auxiliary to the American Medical Association. Luncheon followed the business meeting.

The Auxiliary sponsored a beautiful benefit bridge party recently at Davison-Paxon's tea room in Atlanta. Mrs. H. Cliff Sauls had charge and she and Mrs. Shackelford, as president, greeted the guests. An attractive display of the latest fall costumes, modeled by Auxiliary members, featured the party, which was largely attended and highly successful.

NEWS ITEMS

THE GEORGIA MEDICAL SOCIETY, Savannah, announces the opening of the Savannah Cancer Clinic. The Committee on Arrangements are: Dr. Wm. H. Myers, chairman; Dr. A. A. Morrison, Dr. Julian K. Quattlebaum, and Dr. E. Carson Demmond, all of Savannah. Members of the staff are: *Gynecology*—Dr. E. Carson Demmond, Dr. A. J. Kelley and Dr. L. M. Freedman; *Surgery*—Dr. L. J. Hahne, Dr. F. R. Stephenson, Dr. J. H. Pinholster, Dr. W. E. Brown, Dr. Jno. L. Elliott, and Dr. R. L. Oliver; *X-Ray*—Dr. W. A. Cole; *Eye, Ear, Nose and Throat*—Dr. G. H. Faggart; *Dermatology*—Dr. S. F. Rosen; *Internist*—Dr. L. B. Taylor and Dr. Otto W. Schwalb; *Urologist*—Dr. S. Elliott Wilson; *Pathologist*—Dr. Lee Howard.

DR. E. S. SANDERSON, Augusta, spoke on Adult Health Education at Hephzibah school in Richmond county on October 4. The lectures are sponsored by Dr. Thomas B. Phinizz, director of the Richmond County Board of Health.

THE MACON MEDICAL SOCIETY of Bibb County met at Ridley Hall, Macon, October 4. Dr. Charles H. Richardson read a paper on *Peptic Ulcer*.

DR. THOMAS M. ADAMS, Montezuma, has been elected president of the Montezuma Kiwanis Club.

DR. AND MRS. OLIN S. COFER entertained members of the Fifth District Medical Society and Woman's Auxiliary at an open house in their home at 948 Lullwater Road, Atlanta, after the meetings of the Society and Auxiliary on the evening of October 6.

THE SOUTHWEST GEORGIA PUBLIC HEALTH ASSOCIATION met at the Solms Hotel, Savannah Beach, October 10th. The program consisted of a visit to the Malaria Research Laboratory, Savannah; *Talk on Training of Midwives* by Mrs. Dorothy Teakle, chief of the Chatham county public health nurses; playlet, *The Old and New Midwives*, presented by midwives; *Prenatal Work in Chatham County*, Dr. H. F. Sharp-ley, Jr.; *Treatment of Venereal Diseases*, Dr. John S. Howkins.

DR. C. C. AVEN, Atlanta, president of the Fulton County Medical Society, spoke before a meeting of the Columbus Kiwanis Club on September 27.

DR. J. M. TRIBBLE, Senoia, has been promoted to colonel in the Reserve Corps of the United States Army.

DR. E. S. SANDERSON, Augusta, spoke before a public meeting at Hephzibah, September 29, on *Problems of Sanitation in the Community and Home*.

DR. H. G. HUEY, Homerville, has been reappointed to the State Board of Medical Examiners by Governor E. D. Rivers.

DR. B. H. MINCHEW, Waycross, was the principal speaker at the second annual anniversary of the opening of the Brooks County Hospital at Quitman.

THE GEORGIA MEDICAL SOCIETY, Savannah, met on October 11. Dr. John W. Daniel, Sr., reported a case, *Nicotinic Acid in the Edema of Nephrosis*; Dr. H.

F. Sharp-ley, Jr., read a paper entitled, *The Pathology of the Ovary in the Light of Newer Knowledge—Lantern Slides*; Dr. Lee Howard and Dr. R. L. Oliver led the discussion.

THE GEORGIA UROLOGICAL ASSOCIATION met at the Academy of Medicine, Atlanta, October 13th. Welcome from the Fulton County Medical Society by Dr. Carl C. Aven, president; welcome from the Medical Association of Georgia by Dr. Grady N. Coker, Canton, president. Introduction of Dr. Grayson Carroll, St. Louis, Mo., by Dr. Edgar G. Ballenger. Dr. Carroll spoke on *The Trend Toward Conservatism in Urologic Treatment*. Address by Dr. Willis P. Jordan, Columbus, president of the Georgia Urological Association.

THE FIFTH DISTRICT MEDICAL SOCIETY met at the Academy of Medicine, Atlanta, October 6th. The scientific program consisted of titles of papers as follows: *Factors Influencing the Mortality of Ruptured Gastric and Duodenal Ulcers* by Dr. T. C. Davison; *Rabies—Motion Picture*, Dr. M. L. Blatt, Chicago; *Some of Our Mistakes*, Dr. Grady N. Coker, Canton, president of the Association; *Diagnosis and Management of Acute Cholecystitis*, Dr. Howard M. Clute, Boston, Mass.

THE EIGHTH DISTRICT MEDICAL SOCIETY met at Douglas on October 11. Titles of papers on the scientific program were: *Malaria Control—Motion Pictures*, Dr. F. G. Eldridge, Valdosta; *Further Study of the Social Aspect of Strabismus—Lantern Slides*, Dr. B. H. Minchew and Dr. B. E. Collins; *Our Problems*, Dr. Grady N. Coker, Canton, President of the Association; *The Technic of Local Anesthesia*, Dr. T. H. Johnston, Douglas; *A Modified Well Leg Traction Splint and Distractor Combined—Moving Picture Illustration*, Dr. Chas. H. Watt, Thomasville; *Prostatic Obstruction*, Dr. W. F. Reavis and Dr. L. W. Pierce, Waycross.

THE STAFF MEETING of Grady Hospital, Atlanta, was held on October 11. The program consisted of a *Symposium on Thyroid Diseases* presented by the members of the Thyroid out-patient clinic: Dr. W. R. Minnich, Dr. Fred Rudder, Dr. T. S. Claiborne, and Dr. D. Henry Poer.

IN THE FOURTH HEALTH PROGRAM sponsored by the Macon Medical Society of Bibb County at the John H. Heard School, Macon, speakers on the program were: Dr. J. B. Kay, Byron, who lectured on *Tuberculosis*; Dr. C. L. Ridley, *Syphilis*; Dr. Benjamin Bashinski, *Diet*; Dr. J. D. Applewhite, *Suggestions for Serving Meals*.

DR. O. S. GROSS, Vidalia, has been elected chairman of the Health and Safety Department of the District Boy Scouts. The district is composed of Evans, Tattnall and Toombs counties.

DR. C. A. HENDERSON, formerly of Ashburn, has been elected commissioner of health for Terrall county and removed to Dawson.

DR. M. E. WINCHESTER, Brunswick, spoke at a meeting at the Health Center in Savannah on October 17.

DR. J. R. GARNER, Atlanta, chief surgeon of the A. & W. P. R. R., Georgia Railroad and the Western Railway of Alabama, has been elected to life membership in the American Medico-Legal Association and to the editorial board of *The American Journal of Medical Jurisprudence*. The Journal made its debut in September.

THE MACON MEDICAL SOCIETY of Bibb County met at Ridley Hall, Macon, October 18. Dr. W. C. Boswell spoke on *Pertussis*.

THE JONTE EQUEN MEMORIAL LECTURESHIP was delivered by Dr. Wells P. Eagleton of Newark, N. J., at the Academy of Medicine, Atlanta, October 21. He spoke on *Allergic and Toxemic Types of Curable Bacterial Meningitis*.

THE STAFF MEETING of the Georgia Baptist Hospital, Atlanta, was held on October 18. Dr. Stephen T. Brown and Dr. LeRoy Parham presented cases for discussion.

DR. B. V. ELMORE, Rome, Floyd County Commissioner of Health, in cooperation with the State Department of Public Health, conducted a chest clinic in Rome on November 2.

DR. L. C. ALLEN, Hoschtou, was elected vice-chairman of the board to make contracts and supervise the work on the building program at the State Tuberculosis Sanatorium at Alto. A new sanatorium with a capacity of 200 beds at a cost of about \$400,000 will be erected.

DR. TRAMMELL STAR, Dalton, spoke before a meeting of the Parent-Teacher Association at the Dalton High School auditorium, October 10, on *Preventive Medicine*.

DR. JABEZ JONES, Savannah, chief surgeon of the Seaboard Air Line Railroad Company, attended the thirty-sixth annual meeting of the Association of Seaboard Air Line Railway Surgeons at Richmond, Va., October 13, 14, 15.

DR. FRED H. SIMONTON, Chickamauga, entertained the members of the Walker-Catoosa Counties Medical Society at their regular meeting at his office on October 3. Dr. William G. Stephenson, Chattanooga, Tenn., was a guest speaker.

IF INTERESTED in a new location to practice medicine, write the secretary-treasurer of the Association.

THE SECOND DISTRICT MEDICAL SOCIETY met at Bainbridge, October 14. Titles of papers on the scientific program were: *Hookworm—Its Economic and Medical Importance in Southwest Georgia*, Dr. J. W. Mobley, Pelham; *Thyroids*, Dr. T. C. Davison, Atlanta; *Conservatism in Renal Surgery*, Dr. Earl Floyd and Dr. James L. Pittman, Atlanta; *Moving Picture Demonstrating a Combined Tractor and Distractor*, Dr. Chas. H. Watt, Thomasville; *Relationship of Nasal Infection and Sinusitis with Infection of the Middle Ear*, Dr. W. P. Rhyne, Albany. Visitors were: Dr. Grady N. Coker, Canton; Dr. Earl Floyd, Atlanta; Dr. Edgar D. Shanks, Atlanta, secretary-treasurer of the Association; Dr. Hal M. Davison, Atlanta, and Dr. T. C. Davison, Atlanta.

DR. DANIEL C. ELKIN, Atlanta, was guest speaker at the annual session of the Kentucky State Medical Association at Louisville, October 3-6.

DR. AND MRS. MURDOCK EQUEN, Atlanta, entertained the members of the Fulton County Medical Society and their wives at the Academy of Medicine on October 21 after the Jonte Equen Memorial Lecture by Dr. Wells P. Eagleton, Newark, N. J.

DR. ENOCH CALLAWAY and DR. W. H. CLARK, both of LaGrange, have been elected to fellowship in the American College of Surgeons.

DR. E. S. SANDERSON, Augusta, spoke at Bayview school on the *Problem of Typhus Fever*, October 13.

THE GEORGIA MEDICAL SOCIETY, Savannah, met on October 25. Dr. Shelton P. Sanford read a paper entitled *Bundle Branch Block—A Clinical Entity*; the discussion was led by Dr. T. J. Charlton, Dr. J. R. Broderick and Dr. J. C. Metts. Dr. Lee Howard reported a case, *Response of Pneumonia to Antitoxin*.

DR. WILLIAM E. CAMPBELL, JR., announces that his practice will be limited to ophthalmology with offices in the Medical Arts Building, Atlanta.

OBITUARY

Dr. Andrew Fletcher Weathers, Shellman; member; Vanderbilt University School of Medicine, Nashville, Tenn., 1894; aged 68; died at his home on October 14, 1938 after a long illness. He was a native of Stewart county and moved to Randolph county immediately after he graduated in medicine. Dr. Weathers was a prominent physician and continued his practice until disabled by ill health. He was a member of the Randolph County Medical Society. Surviving him are his widow, four daughters: Mrs. Jessie Turner and Mrs. Sadie Sutton, both of Shellman; Mrs. Gladis Mallard, Baconton, and Mrs. Mary O'Kelley, Forsyth; two sons, Watson and A. F. Weathers, Jr., both of Shellman. Rev. J. A. Durden officiated at the funeral services conducted at the Shellman Baptist church. Interment was in Shellman cemetery.

Dr. Benjamin Kelley Simmons, Blakely; member; Georgia College of Eclectic Medicine and Surgery, Atlanta, 1910; aged 68; died at his home on October 7, 1938. He was a native of Dale county, Alabama. He had been a resident of Early county 28 years and actively engaged in practice and farming. Dr. Simmons was prominent in public and civic affairs and one of the State's best citizens. He was a member of the Tri-County Medical Society and the Masonic Lodge. Surviving him are his widow, one son, Shelley Simmons, Blakely; one brother, J. F. Simmons, Blue Springs, Ala. Rev. J. C. Parrish, Ashford, Ala., officiated at the funeral services conducted at the graveside. Burial was in Pleasant Grove cemetery.

Dr. Jesse Moody Oliver, Hazlehurst; member; Atlanta School of Medicine, Atlanta, 1910; aged 51; died at a private sanitarium in Eastman on October 18, 1938. He was born and reared at Grayson, Ga., moved to Hazlehurst in 1925 and was widely known as a successful farmer and physician. He was actively engaged in his work until just a few days before his death. At

the time of his death he was a member of the Hazlehurst city council and local surgeon for the Southern Railway Company. He was a member of the Ocmulgee Medical Society. Surviving him are his widow, one son, J. M. Oliver, Jr.; three daughters, Mrs. Robert Garbutt of Douglas; Miss Marjorie Oliver and Miss Jo Oliver, both of Hazlehurst.

Dr. Arthur Alston Morrison, Savannah; member; University of Georgia School of Medicine, Augusta. 1923; aged 38; died suddenly of heart disease on October 17, 1938. He was a native of Savannah and received his preliminary education there; received his collegiate degree from the University of Georgia, Athens. He served his internship at the University Hospital and Wilhenford Hospital for Women and Children, Augusta; then served as house physician in a Savannah hospital. He later established himself in private practice, and served as Savannah health officer for a number of years. Dr. Morrison served for five years as city councilman and at the time of his death was chairman of Pensions and Charities Committees, and member of the Drainage and Police Committees; on the staffs of Warren A. Candler Hospital and St. Joseph's Hospital; and president-elect of the Georgia Medical Society; first vice-president of the Chatham-Savannah Tuberculosis Association; past vice-president of the Medical Association of Georgia; member of the Southern Medical Association, Southeastern Surgical Association, American College of Surgeons and the American Medical Association. He was a member of the Knights of Pythias, Masons, and the St. Paul's Episcopal church. Surviving him are his widow, three children, Lonnie Loetus, Arthur Alston and Mariuna Morrison. Rev. David N. Peeples and Rev. S. B. McGlohon officiated at the funeral services conducted at St. Paul's Episcopal church. Interment was in Bonaventure cemetery.

Dr. Richard S. Bradley, Dalton; member; Southern Medical College, Atlanta, 1884; aged 81; died at his home on October 19, 1938 after an extended illness. He was born in Gordon county. After he graduated in medicine, he began practice in Bartow county and continued there until 1918, moved to Adairsville, then to Dalton. Dr. Bradley was actively engaged in the practice of medicine for 53 years. It is claimed that he never refused medical care for the most destitute, and that he attended the deliveries of more than 5,000 babies. From the reports of his kindness and usefulness and service to humanity, it must have been a rare treat to have known him intimately. He was a member of the Whitfield County Medical Society, Masonic Lodge and the Baptist church. Surviving him are his widow, three sons, C. L. Bradley, Dalton; R. G. and J. H. Bradley, Rome; four daughters, Mrs. B. J. Bandy, Dalton; Mrs. E. C. Clark, Cartersville; Mrs. Vernon Fox, Calhoun; Mrs. Lois B. Fuller, Gastonia, N. C. One son, Captain B. P. Bradley, was killed in action in France in October, 1918, during the closing days of the World War. Rev. J. L. Clegg and Rev. A. B. Cash officiated at the services conducted at the Adairsville Baptist church. Burial was in the Adairsville cemetery.

BOOK REVIEW

Textbook of Gynecology, by Arthur Hale Curtis, M.D., Professor and Chairman of the Department of Obstetrics and Gynecology, Northwestern University Medical School; Chief of the Gynecologic Service, Passavant Memorial Hospital, Chicago. Third Edition. Reset. 603 pages; 318 illustrations. Philadelphia. W. B. Saunders Co., 1938. \$7.00.

The author is widely recognized as one of our leading authorities in the field of gynecology. The previous editions of his textbook consisted chiefly of a record of his broad personal experience. He has now revised and added all that is necessary to make the present third edition a complete, excellent and up to the minute textbook of gynecology. There has been included a thorough resumé of the literature covering all subjects of this specialty.

The first three sections, comprising eight chapters, are entirely new. These consist of anatomy, embryology, physiology and endocrinology of the generative tract and related structures. The anatomic illustrations have been made from actual dissections and represent the details as they are encountered by the surgeon and at the dissecting table.

The section on the endocrines as related to gynecology is excellent. The author has presented this rapidly advancing and important phase of gynecology in a clear and concise manner. If for no other reason, the up-to-date summary of female endocrinology makes this book a valuable one. It would behoove every physician to read this much of it at least.

The following sections are in a well arranged order. They cover the gynecologic history and examination, infectious processes, tumors, displacements, relaxations and disturbances of function. Special gynecologic topics are well presented, particularly the subject of endometriosis. As evidence of one's thoroughness in a specialty the author has not failed to emphasize in separate chapters the important relationship of gynecology to early months of pregnancy, to gastro-intestinal and urinary tract disorders. Due consideration is given to the etiology, diagnosis and treatment. The fundamentals of radio-therapy, preoperative and post-operative care and of anesthesia are emphasized.

The entire text is beautifully written and is no burden to read from cover to cover. Adequate reference to the literature is given with each chapter. The general text and the excellent illustrations chiefly by Tom Jones, make this third edition all that could be asked for in a single volume of gynecology and a textbook for students.

JAS. N. BRAWNER, JR., M.D.

NOTICE TO PHYSICIANS

A study of fetal amputations and deformities in relation to placenta and membranes is being made at the University of Georgia School of Medicine at Augusta. This is a request in the case of fetal deformities for the placenta and membranes, intact as possible, to be wrapped in towel or cloth soaked in boric acid saturated solution, packed in a coffee can and sent by express collect to the Department of Obstetrics and Gynecology at the above address.

WALKER-CATOOSA COUNTY MEDICAL SOCIETY

The Walker-Catoosa County Medical Society held its regular monthly meeting, Tuesday, Sept. 13, 1938.

The society was invited to have dinner and to hold its meeting at the home of Dr. Dewey Hammond. The following members enjoyed the hospitality of Dr. and Mrs. Hammond: Drs. Hale, Stephenson, Alsobrooks, Simonton, Kitchens, Coulter, Shepard, and J. H. Hammond. Dr. Haymore of Chattanooga and Dr. Claudius Clemons were invited guests.

After dinner the meeting was called to order by the president, Dr. Dewey Hammond. The secretary read the minutes which were adopted by the society. Old business was dispensed with and Dr. Haymore of Chattanooga, the guest speaker, was presented by Dr. Hammond.

Dr. Haymore read to the society a very interesting paper on "Cardiovascular Syphilis." He stated that usually the first part of the aorta was involved along with the orifices of the coronary arteries. The syphilitic process begins as an aortitis and when aneurysm can be demonstrated by x-ray the process had greatly advanced. Angina, heart block and auricular fibrillation are rare in syphilitic hearts, and aortic stenosis is never found in a syphilitic heart, he said.

Dr. Clayborne briefly discussed another paper which was presented at the meeting in Nashville. This was on "Skull Injuries Where Hemorrhage Was Not Involved." He stated that a series of head injuries were discussed where sucrose was used as a dehydrating agent and where spinal punctures were not used. Sucrose proved to be satisfactory. Drs. Hale and Hammond took issue with Dr. Clayborne and were enthusiastically in favor of spinal punctures in selective cases. Dr. Hale brought out the idea that if sucrose was being used with such marked results in head injuries why not substitute sucrose for glucose in eclampsia. Maj. Webb brought up the subject of its possible use in delirium tremens.

At the end of these interesting discussions the society agreed that as long as most of the members of the society were attending the postgraduate obstetrical course in Chattanooga, the next regular meeting be held in September.

RICHARD C. SHEPARD, M.D.
Secretary and Treasurer.

JONTE EQUEN MEMORIAL LECTURE IN OCTOBER

Dr. A. G. Fort, chairman of the Lecture Committee for the Jonté Equen Memorial Lecture, announces that Dr. Wells P. Eagleton of Newark, N. J., will give the second Equen Memorial Lecture on Friday evening, October 21. He will speak on "Allergic and Toxemic Types of Curable Bacterial Meningitis."

Dr. Eagleton needs no introduction to men in the field of eye, ear, nose and throat specialty. He is well known in this field, having been the first one in the world to describe osteomyelitis of the petrous apex as a surgical entity. The operation for the unlocking of the petrous pyramid is entirely original. He is credited

with the original principle of putting the inflamed venous sinus at rest by ligation of the internal carotid, thus giving us our present understanding of cavernous sinus thrombophlebitis and the operation of reaching the sinus following ligation of the common carotid, thus putting the parts at rest. In France his description of the vestibular signs of increased intracranial pressure is spoken of as "Eagleton's Syndrome."

Dr. Eagleton is a delegate to the American Medical Association, a member of the American Academy of Ophthalmology and Oto-laryngology, American Laryngological, Rhinological and Otolological Society, American Otological Society, and the American College of Surgeons.

We are grateful to Dr. Equen for again making it possible for us to have such an imminent surgeon address us. The medical profession is cordially invited.

—Fulton County Medical Society Bulletin, Atlanta, Ga.

RESOLUTION: NON-HABIT FORMING DRUGS

WHEREAS, The members of the Glynn County Medical Society realize the widespread and indiscriminate use by the general public of so-called "non-habit-forming" drugs, and drugs not at present classified as narcotics, but which have proven to be acceptable substitutes for debasing narcotics when used in excess of therapeutic indications by great numbers of the general public; and

WHEREAS, it is generally admitted that such drugs, though rightfully having their place in the armamentarium of the ethical practitioners of medicine for the relief of suffering, pain, insomnia, nervousness, mental trouble and anxiety neuroses, etc., under the observation and direction of such ethical practitioners of regular medicine; and

WHEREAS, it has been discovered that the indiscriminate, unwarranted and unprescribed use of many of these preparations not only results in an actual or pseudohabitation on the part of such excess users; but, in many instances produces actual damage to physiologic processes; tissue structures; body fluids; blood cells and plasma; deranged cerebration; temporary, and sometimes permanent psychoses, as well as neurologic and neurotic disturbances of varying degrees; all approaching in their far-reaching and devastating effects on users to excess practically analogous results as those attributable to the recognized narcotics now so stringently controlled by the Federal Harrison Narcotic Act; and

WHEREAS, there are no Federal, State or Municipal laws regulating or controlling the sale of such harmful drugs; therefore,

BE IT RESOLVED, that we, the Glynn County Medical Society, respectfully request each and every druggist in Glynn County and each person or place of business handling such drugs among which such preparations are included, to willingly, voluntarily and co-operatively discontinue the sale, dispensing or otherwise supplying to the general public, except on order or prescription "non repetatur" of licensed practitioners of medicine, hospital employees, or others having under their care the sick and suffering, the following named preparations, drugs, or any combinations or

derivatives thereof: the so-called barbiturates, and all their chemical combinations and derivatives; Dimethylaminophenyldimethylpyrazolone, under any of its trade names.

RESOLVED, further, that we respectfully urge the General Assembly of Georgia at its next session to pass adequate laws controlling the sale and dispensing of such above-named drugs.

T. V. WILLIS, M.D., *Secretary*
Glynn County Medical Society.

THE SCHOOL-CHILD'S BREAKFAST

Many a child is scolded for dullness when he should be treated for undernourishment. In hundreds of homes a "continental" breakfast of a roll and coffee is the rule. If, day after day, a child breaks the night's fast of twelve hours on this scant fare, small wonder that he is listless, nervous, or stupid at school. A happy solution to the problem is Pabulum, Mead's Cereal cooked and dried. Six times richer than fluid milk in calcium, ten times higher than spinach in iron, and abundant in vitamins B₁ and G, Pabulum furnishes protective factors especially needed by the school-child. The ease with which Pabulum can be prepared enlists the mother's co-operation in serving a nutritious breakfast. This palatable cereal requires no further cooking and can be prepared simply by adding milk or water of any desired temperature. Its nutritional value is attested in studies by Crimm *et al* who found that tuberculous children receiving supplements of Pabulum showed greater weight-gain, greater increase in hemoglobin, and higher serum-calcium values than a control group fed farina.

Mead, Johnson & Company, Evansville, Indiana, will supply reprints on request of physicians.

DIPHTHERIA AND TETANUS TOXOIDS

Laboratory studies and clinical investigations have shown that diphtheria and tetanus toxoids when given at the same time act independently and effectively in the production of their respective antitoxins. By a method devised in the Lilly Research Laboratories, the combined alum precipitated toxoids are prepared in a single solution.

Two doses of 0.5 cc. given three to six months apart produce satisfactory immunity within six months after the last injection. Should the immunized subject subsequently receive an injury through which tetanus spores might enter the tissues, a stimulating dose of 0.5 cc. tetanus alum precipitated toxoid should be given.

It is very frequently a debatable question whether to give tetanus antitoxin in a great variety of injuries to which children are liable. To have a reasonable assurance of protection in a large percentage of immunized cases and to be able to avoid serum sensitization from antitoxin administration are advantages that strongly commend tetanus immunization.

The Pan-Pacific Surgical Association will hold its third meeting in Honolulu, Hawaii, September 15-28, 1939. The first and second meetings were held in Honolulu in 1929 and 1936, respectively. Many outstanding surgeons from the United States and foreign countries will be present.

MEDICAL BROTHERHOOD

In these times of keen competition, supplemented by human jealousies, we are apt to lose sight of the sterling virtues of our profession. For years the noble souls of medicine have stressed that we follow a profession and not a business. In spirit they were correct. "However," to use a word made famous by our first citizen, "that is only partly true today."

To complete a medical training, to equip offices with the latest apparatus, to add the supplemental medical personnel, to maintain a social position in the community and to continue postgraduate study require a sizeable income. There was a period when sending a bill to a patient was unethical and considered bad manners. Today no large office could be operated very long without the regular billing of patients and an able secretary. Instead of the voluntary remuneration of the grateful patient, stated charges are now made for all services. In a way, public request has helped bring this about. "What will be the charges, doctor," is frequently heard.

Another change that is being gradually realized is the status of the family doctor. He still exists but like the buffalo has all but disappeared. In the cities, at least, we find that each adult member of the family picks his own doctor and specialists. It is not unusual to find a patient consulting half a dozen doctors in the course of a year. The cause for this is found in the restless spirit of our times, in the difference in salesmanship of doctors and individual reputations for technical skill. But the fact remains that the family physician has been replaced by the specially trained doctor, whose services are confined to a limited field of medicine.

Doctors prepare themselves for particular lines of service, open well equipped suites in modern office buildings and bid for practice. Methods are many. Social contacts, insurance company examinations, essays before medical societies, service clubs, religious orders and medical publications are some of them. Once established, ability, health, skill and fair treatment of patients and colleagues will assure the doctor a stabilized practice. All this is the background for our main thought, the brotherhood of doctors. In spite of all the changes in medical practice to which we must adapt ourselves, we are by tradition brothers. Anyone at all familiar with families knows that brothers may exhibit many characteristics, as generosity, helpfulness, patience, interest in others, or selfishness, self-interest, avarice, cruelty and unkindness. Fortunately, the latter ones are rare.

Whatever changes may confront us in the future as to types of medical service, it will be to our mutual advantage to think of ourselves as brothers. Political and economic upheavals have swept like a flood over many countries in the course of history. They will do so again. Medical service shares these changes and will have to adjust itself to these revolutions which are not of its making. But through it all, as in the past, we must remember the traditions of our medical forefathers. Hippocrates, Aesculapius, Galen, Physick, Osler, Riesman, Weir Mitchell and a host of others have set us an example. It was the Good Shepherd who said, "he who loses his life shall find it."

The practice of medicine has its dramatic moments and its occasional fame. For the great mass of us doctors, however, it has always meant hard work, application, a twenty-four hour job, few holidays and service to the patient before pleasure or self-interest. This is not a lament but a restating of our heritage. We did not choose medicine as big business, but for its human interest. We belong to a noble brotherhood. It is founded on charity in the broadest meaning of that word, on fair play to the older medical brother as well as to the younger one, on fraternal loyalty, ever ready to overlook a fault and to extend a helping hand.

In the emotion and heat of arguments over socialized medicine, in the pinching of an overcrowded profession and low incomes, let us keep our heads cool and our feet on the ground. In the evolution of the human race its rise is founded upon its power of adaptation. The art of treating the sick and the science of disease eradication are subject to all those factors which are constantly influencing human life. Nothing is static or fixed. Our profession must gracefully conform itself to the new conditions as they arise, for we too must grow. We are all members of one big family. It is quite beyond our power to change the economic world. We can, however, work together as brothers.

"All your strength is in your union
All your danger is in discord;
Therefore be at peace henceforward,
And as brothers live together."

—Longfellow.

Northwest Medicine, Seattle, Washington, 37:9, Sept., 1938.

"IS THIS PRODUCT COUNCIL-ACCEPTED?"

This is the first question many physicians ask the detail man, when a new product is presented.

If the detail man answers, "No," the doctor saves time by saying, "Come around again when the Council accepts your product."

If the detail man answers, "Yes," the doctor knows that the composition of the product has been carefully verified, and that members of the Council have scrutinized the label, weighed the evidence, checked the claims, and agreed that the product merits the confidence of the physicians. The doctor can ask his own questions, and make his own decision about using the product, but not only has he saved himself a vast amount of time but he has derived the benefit of a fearless, expert, fact-finding body whose sole function is to protect him and his patient.

No one physician, even if he were qualified, could afford to devote so much time and study to every new product. His Council renders this service for him, freely. Nowhere else in the world is there a group that performs the function so ably served by the Council on Pharmacy and Chemistry and the Council on Foods.

Mead Johnson & Company cooperates with both Councils, not because we have to but because we want to. Our detail men can always answer you, "Yes, this Mead Product is Council-adopted."

Mead Johnson & Company, Evansville, Ind., U.S.A.

THE SUMMER-TIME USE OF MEAD'S OLEUM PERCOMORPHUM

During the hot weather, when fat tolerance is lowest, many physicians have found it a successful practice to transfer cod liver oil patients to Mead's Oleum Percomorphum.

Due to its negligible oil content and its small dosage, this product does not upset the digestion, so that even the most squeamish patient can "stomach" it without protest.

There are at least two facts that strongly indicate the reasonableness of the above suggestion: (1) In prematures, to whom cod liver oil cannot be given in sufficient dosage without serious digestive upset, Mead's Oleum Percomorphum is the antiricketic agent of choice; (2) In Florida, Arizona and New Mexico, where an unusually high percentage of sunshine prevails at all seasons, Mead's Oleum Percomorphum continues increasingly in demand, as physicians realize that sunshine alone does not always prevent or cure rickets.

Mead Johnson & Company, Evansville, Indiana, invite you to send for samples of Mead's Oleum Percomorphum for clinical use during the summer months to replace cod liver oil.

BOOKS RECEIVED

The American Illustrated Medical Dictionary: A complete dictionary of the terms used in medicine, surgery, dentistry, pharmacy, chemistry, nursing, veterinary science, biology, medical biography, etc. By W. A. Newman Dorland, A.M., M.D., F.A.C.S., Lieut.-Colonel, M.R.C., U. S. Army; member of the Committee on Nomenclature and Classification of Diseases of the American Medical Association; editor of the *American Pocket Medical Dictionary*. With the collaboration of E.C.L. Miller, M.D., Medical College of Virginia. Eighteenth edition, revised and enlarged. 1,607 pages with 942 illustrations, including 283 portraits. Flexible and stiff binding. 1938. Plain, \$7.00 net. Thumb indexed, \$7.50 net. W. B. Saunders Co., West Washington Square, Philadelphia, Pa.

Diseases of the Skin for Practitioners and Students, by George Clinton Andrews, A.B., M.D., Associate Professor of Dermatology, College of Physicians and Surgeons, Columbia University; Chief of Clinic, Department of Dermatology, Vanderbilt Clinic; Fellow of the American Medical Association, of the American College of Physicians, and of the New York Academy of Medicine. Second edition, entirely reset. 899 pages with 938 illustrations. 1938. Cloth, \$10.00 net. W. B. Saunders Co., West Washington Square, Philadelphia, Pa.

A Textbook of Gynecology, by Arthur Hale Curtis, M.D., Professor and Chairman of the Department of Obstetrics and Gynecology, Northwestern University Medical School; Chief of the Gynecological Service, Passavant Memorial Hospital, Chicago, Illinois. Third edition, reset. 603 pages with 318 illustrations. Philadelphia and London: W. B. Saunders Company, 1938. Cloth, \$7.00 net. W. B. Saunders Co., West Washington Square, Philadelphia, Pa.

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WOULD YOU RECOGNIZE A CASE OF GLAUCOMA?*

STACY C. HOWELL, M.D.
Atlanta

Biologists tell us that the supremacy of man among the animals is largely due to the especially high development of vision in the Primates. Everyone will agree that the loss of sight is one of the greatest disasters which can befall any individual. If the experience of the race has taught nothing else, it has convinced every thoughtful individual of the importance of guarding the organs of vision. And yet statistics show that over 100,000 persons in the United States are blind and that a large percentage of the remainder suffer from defective vision.

Today, the principal cause of incurable blindness is glaucoma, this disease having acceded to that unenviable position with the decrease in the incidence of gonorrheal ophthalmia, particularly that of the new-born. The reduction in the incidence of ophthalmia neonatorum has resulted almost entirely from education as to means for its prevention. No physician is unmindful of the fact that the eyes of the new-born may be protected from infection, and, even midwives and the laity have been reached in the far flung educational program against the disease. Through education, promulgated by the diligence of the abdominal surgeons, all of us know the desirability of early surgery in appendicitis so that today deaths from this disease are a rarity. What has been accomplished in reducing the incidence of gonorrheal ophthalmia and in reducing the mortality in appendicitis can in some measure, be accomplished in reducing the number of those blinded by glaucoma.

Glaucoma is characterized by increased tension of the eyeball associated with pain in or about the eye, together with diminution of vision. Its unhampered progress leads ultimately to complete and permanent blindness.

As in appendicitis, the cure or arrest of the condition depends upon early recognition and early surgery. The responsibility for early recognition cannot always be placed upon the ophthalmologist for large numbers of these cases are seen first by the general physician or by one in another specialty. It is for this reason that I raise the question, "Would you recognize a case of glaucoma?"

Let no one assume from the questioning title of this paper that ophthalmologists consider themselves immune to errors of omission. Unquestionably we fail to recognize fully as many conditions as those in any other specialty. We all need to have our minds refreshed upon the signs and symptoms of those diseases with which we are not in daily contact. Too often, eyes are seen by the ophthalmologist only after much damage from glaucoma has taken place. The frequency of this occurrence leads us to believe that the disease is not always readily recognized.

With regard to age, glaucoma is a disease of senility, rarely present in persons under forty years old, but often seen in those over sixty. It attacks women more frequently than men; certain races, too, seem to have a special predisposition to the disease.

An attack may in many instances be clearly traced to some mental distress or moral shock; to the injurious influences of cold or hunger; or to fatigue, the result of worry or of sleeplessness. Anything that depresses and disturbs the action of the heart may predispose to glaucoma and there may be associated anemia, lithiasis, bronchitis, constipation, or the suppression of the menses. The most important underlying conditions from an

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etiologic point of view are certain constitutional states, particularly the rheumatic and the gouty.

No matter what may have been the determining cause, as soon as there is disturbance in the equilibrium between the processes of secretion and excretion within the eyeball, there is at once a rise in the intra-ocular pressure, and this increase of tension is the essence of the disease. The first and most important symptom, therefore, is increase of tension, and from it arise all the other phenomena which go to make up a picture of primary glaucoma.

Once glaucoma has become thoroughly established, there is not much difficulty in its diagnosis. The stages most apt to be overlooked are the early ones; and since successful treatment depends for the most part upon early recognition, it is essential that a clear and accurate conception be formed of the symptoms with which a patient with incipient glaucoma will complain.

In particular, suspicion should always arise: (1) if a patient states that he suffers frequently from temporary obscuration of vision—that he seems for the time being to see everything hazily—even though when tested by the ordinary methods the visual acuity is found to be normal; (2) if a patient who uses spectacles for presbyopia says he has had to change them frequently, and is found to be using glasses much more powerful than ought to be necessary at his age; (3) and if he sees colored rings or a halo about lights.

Subjective signs of early glaucoma

1. Temporary or partial obscuration of vision
2. Wears stronger near glasses than compatible with age
3. Sees halos or colored rings about lights
4. Headaches or pain about the eye
5. Restriction of visual fields

Usually while these symptoms last, the patient complains of dull pain in the eyes and forehead, and may be conscious that both his central and peripheral vision are defective; but it is only when his physician chances to see him during an attack that any objective signs of glaucoma can be detected. It is then found that the eyeballs are harder than normal. The sensitive fingers of any physician will find no difficulty in detecting differences in tension if he gently palpates the globe with both index fingers and compares it with the

tension of the fellow eye or with that of his own. The cornea is found to be more or less cloudy. There may, or may not, be some slight pericorneal injection, and overfullness of the episcleral veins. The proper tests will show that the extent of the visual field is contracted, with the limitation most marked on the nasal side.

Objective signs of early glaucoma

1. Eyeball harder than normal (increased tension)
2. Shallow anterior chamber
3. Slight dilation of pupil
4. Pericorneal injection

Ophthalmoscopic signs of early glaucoma

1. Overfullness of retinal veins
2. Pulsation of retinal arteries (only the veins pulsate in the normal eye)
3. Cupping of disk is not an early sign

Ophthalmoscopic examination will disclose congestion, and, perhaps, increased tortuosity of the retinal veins; and pulsation in the retinal arteries, if not present, can always be produced by slight pressure upon the eyeball. Attacks such as these, in the intervals between which the eye is, to all appearance, healthy, may vary in duration from a few minutes to several hours; but the periods between them become gradually shorter, until at length the condition of the eye is one of permanently increased tension with the changes consequent upon it. Glaucoma is then thoroughly developed. If cupping of the disk is present the condition is not an early one. The increased tension has been sustained long enough to destroy some of the fibers of the optic nerve and to produce the condition known as cupping.

Objective signs of advanced glaucoma

1. Eyeball harder than normal (increased tension)
2. Cloudy cornea
3. Dilation of pupil
4. Pericorneal injection
5. Cupping of disk

Along with defects in the visual acuity, there is always associated a restriction of the visual field. At first this is confined for the most part to the nasal portion, but after the disease has made considerable progress it involves the temporal region also, and steadily increases until vision is totally lost. It is interesting here to note that color vision, which disappears so early in primary atrophy of the optic nerve, is retained in glaucoma until a comparatively late period; consequently in a

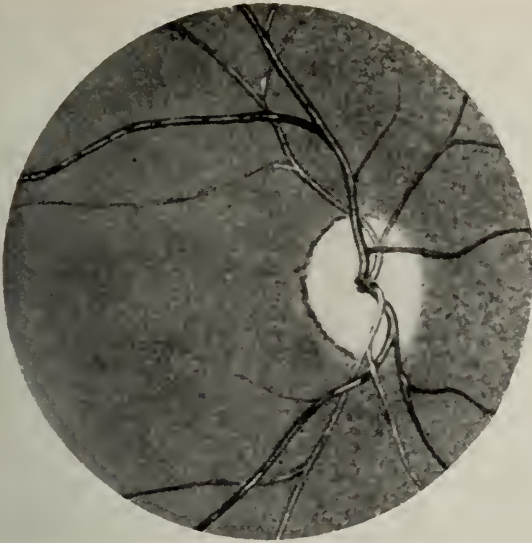


Fig. 1—THE NORMAL FUNDUS

The vessels pass evenly over the disc without any dipping. They arise approximately from the center of the disc and are not pushed to the side. Only the veins pulsate and there is no distention or disproportion between the arteries and veins. There is no halo or choroidal atrophy surrounding the disc.



Fig. 2—THE FUNDUS IN GLAUCOMA

The vessels bend sharply over the disc margin and are seen more or less faintly at the bottom of the excavation; they are pushed over to the nasal side. The vessel ratio is disturbed, the veins are distended; the arteries pulsate and are contracted. The disc is surrounded by a halo due to atrophy of the choroid.

doubtful case, the results of the examination of the color-sense may be of considerable value.

The slow insidious progress of simple glaucoma is in vivid contrast to the rapid and striking outburst of the acute form of the disease. The patient may have gone to bed apparently well; but is awakened in the early hours of the morning by very severe pain in the forehead and in one eye. Almost immediately after the onset, the eyeball becomes acutely congested and feels as if it were too large for the socket; the eyelids are edematous; there is profuse lachrimation; and the sight of the eye rapidly becomes dim. The pain, accompanied by feverishness and persistent retching and vomiting, increases, and radiates with agonizing severity along the branches of the fifth nerve. In some cases the second eye is attacked a few hours after the first, and the patient's condition becomes critical in the extreme.

There is danger that the pronounced symptoms so common as accompaniments of an ordinary gastro-intestinal attack may deceive the doctor, who has probably been called in haste, and the patient himself may add to the misapprehension, for he naturally connects the pain in the head to the vomiting, and attributes the failure of sight to the nausea and dizziness. Almost invariably, the eyes, if un-

fortunately both be attacked, are of stony hardness. There may be extreme congestion and edema of the ocular conjunctiva, the pupil may be dilated, oval shaped, and irresponsive to light, and the anterior chamber may be shallow. The cornea may show a smoky cloudiness, and in many cases be so insensitive that it can be touched, the patient being unaware of the fact. The media are so hazy that the fundus cannot be illuminated by the ophthalmoscope, but, unless there has been a prolonged period of pronounced premonitory symptoms, the optic disk is not excavated after a single attack.

The practitioner must be on his guard not to misinterpret the significance of this form of ocular disease, for to do so is disastrous. The dilated pupil and shallow anterior chamber, associated with the stony hardness of the eyeballs, should not be mistaken for iritis. Unfortunately, however, such a mistake is far too common; and as the treatment for the one is exactly the opposite of that for the other, the error is a serious one. If atropin is instilled, the symptoms are aggravated, and the patient's chances of recovering sight are materially lessened.

The severity of the symptoms passes after a few days, but with the visual function perceptibly diminished. The eye is always liable to future attacks; and after each, the visual

field is more and more contracted, and the optic disk becomes more deeply excavated, and progressively atrophied, from the recurrent hypertension, until at length sight is reduced to bare perception of light. The most acute cases are described as fulminating; and in them glaucoma is seen in its most tragic form, its onset, course, and termination being the incidents of a few hours; after a single attack, appearing with overwhelming suddenness, vision is totally and irrevocably lost.

When a glaucomatous attack is threatening, nothing is of greater value in preventing its onset than a sedative such as sodium luminal or chloral hydrate — which latter, from its power of lowering intra-ocular tension, is especially useful; and very marked benefit follows the use of ordinary chloral and bromide, the patient awakening from several hours of sound sleep apparently quite well.

At the beginning of a congestive attack, it is sometimes possible to relieve pain by the application of fomentations and of leeches; and a hypodermic injection of morphia ought to be given at once if the sufferings of the patient are severe.

Myotics are of undoubted service in the early stages, a premonitory attack being often brought to an end by the timely instillation of eserine; and their regular use when glaucoma is fairly established may hold the disease in abeyance for a considerable time. Pilocarpin is not such a powerful myotic as eserine, but the aqueous solution of its salts is more stable. Epinephrine, too, is often of value. It may be used either in the form of packs of cotton moistened with a 1:1000 solution inserted under the upper lid and allowed to remain from ten to thirty minutes; as a sub-conjunctival injection, or as a simple instillation of a stronger (2 per cent) solution by dropping into the eye. Because this drug may occasionally increase the tension instead of lowering it, application of it should probably be left to the ophthalmologist.

The aim of all treatment is to diminish the increased tension of the eyeball. The therapeutic measures employed for that purpose are both medical and surgical. Medical means are either general or local, and in all cases are only palliative. They may delay, but it is doubtful if they ever prevent, the steadily

progressive downward trend of the disease. At best they are merely tentative; and although the long history of a case of chronic glaucoma prevents one from estimating accurately how much good they do, and how much they really delay the course of the disease, yet it may safely be said that no case was ever cured by their means alone.

If, after twenty-four hours, in acute glaucoma, and after a reasonable trial of medical means in the chronic variety, the increased tension shows no signs of abating, surgical intervention should not be delayed, because the patient's chance of recovering sight depends altogether on the promptness with which the eyeball is opened and the strangulation relieved.

Once established and allowed to run its course unchecked by treatment, the natural tendency of glaucoma of any type is to produce complete loss of vision. Even after absolute blindness has set in, degenerative changes proceed. Subjective sensations of light may continue to torment the patient and encourage a delusive hope that sight may yet be restored; or attacks of pain may again and again occur, until consent is readily given to the removal of the eyeball.

Such is the picture if the increased tension is not lowered, impaired sight or even blindness will almost inevitably result, but the hopelessness of the condition is usually removed by the performance of iridectomy or one of the filtering types of operation. The all-important thing is that action be taken in time.

In recent years there has been remarkable advance in our knowledge of ocular disease as the result of scientific research. We have attained a clearer view as to the nutrition of the eye, which is fundamentally important in the discovery of the cause of such diseased conditions as glaucoma. By them we have learned that viruses, vitamins and hormones are just as important for the eye as for other parts of the body. Much has been learned respecting the control of bacterial infection in the muscular and elastic tissues of the iris, which may block the pupil and thus impair vision and cause repeated attacks of inflammation. These infections, traced to the teeth, tonsils, or sinuses, and occasionally to the lungs from tuberculosis, are fairly readily con-

trolled if recognized early. It must be admitted, however, that the utilitarian applications of some of these researches have been rather disappointing, but the future is full of hope.

In conclusion, may I quote Dr. Phillip Halper: "Glaucoma is a disease of the eye, common in its occurrence and destructive in its behavior. It lends itself quite early to diagnosis and consequently to cure. One should always be aware of its presence: headaches, halos about the lights, pain in the eyes, and diminishing vision (particularly side vision) should make one suspicious of its presence. It must be attacked with understanding and vigor, for its malignant nature leaves hopeless destruction in its wake. The glaucoma patient who seeks the aid of an ophthalmologist early, carries out the doctor's advice faithfully, and remains under medical supervision permanently has a good chance of preserving his sight."

Ponce de Leon Eye and Ear Infirmary.

TRAUMATIC PERFORATION OF THE INTESTINES WITHOUT VISIBLE INJURIES TO THE ABDOM- INAL WALL*

Report of Cases

Q. A. MULKEY, M.D.
Millen

Rupture or perforation of an organ within the abdomen may be produced by external trauma, which does not break the continuity of the abdominal wall or leave visible evidence of bruising. The force of the blow is transmitted through the elastic wall and takes effect at the point where resistance is encountered. An organ may be driven back against the spine or pelvis and a crushing injury result. If a hollow organ is filled with fluid or gas the transmitted force of the blow may raise the internal pressure within the organ so rapidly that the wall of the viscus will burst. This is most liable to occur in a loop of small intestine where the fluid contents are trapped by kinks and are unable to escape when the lumen is suddenly narrowed by the impact. A third mechanism of perforation is: when a blow, striking the ab-

domen tangentially, tears the wall of an organ by stretching it beyond its point of resistance and in a direction away from the nearest point of fixation.

In a series of cases of trauma to the abdomen without visible injury to the abdominal wall reported by Geill¹ the liver, spleen and kidneys were more frequently ruptured than the intestines. Owing to their mobility, the intestines are better able to slip from under the impact and escape being caught where they can be crushed. The small intestine is more likely to be injured than the large intestine, because of the large surface it presents close under the abdominal wall; certain of its segments are particularly liable to injury. In 1,183 cases of rupture of the intestines collected by Counsellor and McCormack² 90 per cent involved the small intestine and 10 per cent were in the large intestine. Eighty per cent of the perforations of the small intestine were in the jejunum or ileum (40 per cent in each); and 10 per cent in the duodenum. The proximal portion of the jejunum and the distal portion of the ileum are the parts most frequently involved because of the presence at the duodenojejunal juncture of the ligament of Treitz and at the ileocecal juncture of the ligaments of the cecum; which diminish the mobility of the adjunct intestine, and also because of the proximity of bone.

A blow in the midline or in the umbilical region is more likely to produce rupture of an intra-abdominal organ than a blow striking the side of the abdomen. The tension or relaxation of the abdominal wall at the moment of the blow is significant. Rigidity of the rectus muscles affords some protection to the organs behind, but contraction of the muscles lessen the capacity of the abdominal cavity and might be considered a factor favoring the bursting of a hollow organ.

Mastrosimone³ found multiple injuries in 25 per cent of all operations for visceral lesions from abdominal contusions. In 8 of his 23 patients with multiple lesions the injuries were limited to the intestines. Injury of the mesentery, with injury of the small intestine, is particularly serious.

There are numerous situations in which trauma to the abdomen may occur which will perforate the intestine without causing injury

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visible on the abdominal wall. The force may be exerted against the entire expanse of the abdomen or against a small area only. Some of the more common accidents are: run over by an automobile or bicycle; an automobile, aeroplane or train accident in which a person is hurled against a portion of the conveyance itself or against some outside object such as a tree trunk, or is struck by and possibly pinned beneath wreckage: a fall from a considerable height, striking the ground with the abdomen; a blow from a horse's hoof or with the fist or any blunt object, or a kick. In industry injuries may occur when a workman is struck by moving machinery or falls or is thrown against stationary machinery. Children may acquire such an injury by pulling a heavy object on themselves, as the case reported by Counsellor and McCormack² and in a similar one which I shall report.

Trauma need not be severe to result in perforation of the intestine. The perforation may not take place immediately. The intestinal wall may be contused, the contusion may be followed by necrosis, and perforation follow the necrosis after a variable length of time. Inslow⁴ stated that severity of the force and the tenseness of the abdomen are factors in determining whether the perforation takes place at the time of the trauma or later. He believed the usual time of appearance of a delayed perforation was about two weeks, but it may be much longer. A gradually developing perforation may be walled off by adhesions and result only in a localized abscess or fistula.

There are no symptoms pathognomonic of traumatic perforation without visible external injury. The history, pain, shock, nausea and vomiting and signs elicited by the physical examination must be the guides to a tentative diagnosis, to be confirmed by exploratory operation. If the patient was injured in an accident of a general nature, an intestinal perforation may remain long overlooked by reason of more obvious injuries, especially if the skin of the abdomen shows no signs of bruise. Pain is usually an immediate and continuous symptom; it is dull, aching, and constant—it is not the pain of colic. In the earlier stages the pain is diffused,

later it becomes localized. White⁵ called attention to a sharply localized pain in the region of the stomach, just to the left of and below the umbilicus, in a case of traumatic perforation of the jejunum in the segment subject to ulceration after gastroenterostomy; this pain exactly reproduced the referred pain of jejunal ulcer.

Shock may be immediate or delayed. The seriousness of the damage cannot be judged from the time of appearance of shock. It is not unusual for a person who has sustained a traumatic perforation to walk and feel well for some little time after the accident. Moriconi⁶ mentioned patients with multiple lacerations of the small intestine who felt entirely well for as long as 2 days after trauma. One of my patients, a 9-year-old child, went to school as usual the day after the injury and her symptoms were not alarming, in the family's opinion, until the fifth day when they called the family physician. In another of my cases a period of eight weeks passed between the accident and symptoms of acute illness. Smith⁷ explained the period of indefinite distress which in many cases precedes the onset of acute symptoms as that in which leakage is still small in amount; after the leakage has become extensive, the clinical picture is that of general peritonitis. The presence or absence of early shock depends partially on whether or not a large vessel, as in the mesentery, has been injured.

Early nausea and vomiting are not significant, but if the vomiting continues, especially after the patient has recovered from initial shock, intestinal perforation or severe injury to another viscus may be considered as probable. Diffuse tenderness usually is present, rarely localized. Rigidity, termed the most valuable single sign of intestinal injury, is a constant symptom, appearing early and persisting. Distention is not a usual early sign but appears with peritonitis—if early, it signifies a poor prognosis, if progressive, rupture of either intestines or stomach may be assumed.

The abdomen should be percussed for obliteration or shifting areas of dullness, in case of intra-abdominal hemorrhage. Early severe hemorrhage is more likely to occur from injury to a solid organ than from perforation

of a hollow organ. Hepatic dullness will be found obliterated at a later stage, but this is not an early sign of intestinal perforation. Counsellor and McCormack² stated that emphysema of the posterior abdominal wall is indicative of retroperitoneal rupture of either the duodenum or the colon.

Tarnowsky⁶ recommended fluoroscopic examination in doubtful cases, for the detection of free gas beneath the diaphragm. In doubtful cases frequent determinations of the temperature, pulse, blood pressure and respiratory rate should be taken to detect shock. The blood should be examined at frequent intervals for a check on internal hemorrhage. Moderate leukocytosis may be expected.

Cope⁹ stated that he would submit to laparotomy patients with the following signs and symptoms in the absence of evidence pointing to thoracic or renal injury: (a) Severe abdominal pain persisting for six hours, accompanied by vomiting, gradually rising pulse rate, local rigidity and deep local tenderness; or (b) absent or slight abdominal pain, steadily rising pulse rate, especially if the patient is restless or listless.

Surgery is the treatment indicated. Without operation death is practically inevitable. With operation the mortality is still 50 per cent or higher—60.7 per cent in 1,313 cases of Counsellor and McCormack's collection. This high mortality rate is accounted for by shock and late operation, with peritonitis. Counsellor and McCormack² place particular emphasis on the importance of preparing patients who are in shock. Good judgment must, however, be used and hemorrhage must be ruled out before applying stimulating measures which might increase the hemorrhage. Transfusions, if given, should be limited to small amounts and be given slowly. Siegel's¹¹ statistics on 376 cases show a steady rise in mortality with delay, from 15 per cent with operation in the first 4 hours to 70 per cent with operation after 12 hours. During operation the possibility of multiple injuries must be borne in mind.

Report of Cases

Case 1. D. R., a white female, aged 9, was admitted to hospital with complaint of severe pain in the abdomen, nausea and vomiting. She gave a history of having jerked over a heavy flower pot five days previously, which knocked her down and rolled across her body, leaving no signs of injury or immediate sense of dis-

comfort. The child went to school the next day, but came home in the afternoon complaining of her stomach and head. She lay around the house the following day and that night her mother gave her a dose of castor oil. On the fourth day vomiting set in and was continuous and the pain in her abdomen grew steadily worse. On the fifth day she was seen by the family physician, who advised immediate hospitalization.

Examination at the hospital 120 hours after the injury showed a well developed young female, apparently suffering acute abdominal distress, crying with pain. The abdomen was distended, board-like and tender over its entire surface. The tenderness was not localized. No masses could be felt. The tongue was dry and coated. Temperature 97° F., pulse 168, respirations 30. Collapse seemed impending. The urinalysis was negative. White blood count 21,000. Other laboratory data were negative.

Diagnosis of traumatic perforation of an abdominal viscus was made and immediate laparotomy decided upon, and which was done under general anesthesia. When the peritoneum was opened several loops of small intestine forced their way into the field of operation. These were covered with flakes and strings of fibrin. Generalized peritonitis was present. The appendix was long and congested and was removed. The ileum was inspected and was found perforated on the mesenteric side about 8 inches proximal to the ileocecal valve. The perforation was about $\frac{3}{4}$ inch in diameter. This was closed with a purse-string suture of black silk. No other injury was found in the abdomen. A drain was put in and the abdominal wall was closed in layers.

Convalescence was stormy for 10 days, the temperature ranging from 100° F. to 104° F. The patient made an uneventful recovery and was discharged from hospital at the end of 21 days.

Case 2. J. C., a white male, aged 6, was admitted to the hospital with severe pain in the abdomen. The only history obtained was that the child had complained of cramps and pains in the abdomen periodically for about 6 weeks. Four days before admission to the hospital he had a severe attack of croup and was seen by the family physician. When the physician was next called he found the patient in intense pain, with abdomen distended and knees drawn up. Hospitalization was advised.

Examination on admission showed a well developed young male child with acute abdominal distress who was vomiting continually. The abdomen was distended and board-like. Rebound pains were present in marked degree. No peristaltic waves were seen and no masses were felt. Temperature 96° F., pulse 168. Urinalysis was negative. The white blood count was 24,000.

A tentative diagnosis of ruptured appendix was made and immediate laparotomy decided upon. This was done under general anesthesia. When the peritoneum was opened, a large amount of foul-smelling pus escaped. There was evidence of general peritonitis. The appendix was brought up and found to be normal except for congestion. On exploring the abdomen, a perforation of the ileum, about 4 inches proximal to the ileocecal valve, was found. The perforation was

about 1 inch long and ran parallel to the longitudinal axis of the intestine. It was repaired with black silk. No other injury to the abdominal viscera was found. A drain was inserted and the abdomen closed.

Convalescence was stormy for about 2 weeks. The wound drained freely. There was some infection of the abdominal wound. The patient made a complete recovery and was discharged the 28th hospital day.

After the operation I discovered that this boy had been run over by a bicycle about 8 weeks previous to his admission to hospital.

Case 3. S. H., an 18-year-old negro male, was admitted to hospital at mid-day, Jan. 15, 1938, complaining of pain in the abdomen and nausea. He gave a history of having been struck in the mid-lower abdomen by the handle of a plow while he was plowing a field. The blow was quite painful, but he continued at work for about half an hour, at which time the discomfort became more severe. He was carried to his local physician, who saw him 2 hours after the injury. Examination revealed nothing significant of injury and he was advised to go home and go to bed. He passed the night in considerable discomfort and early in the morning his pain became more marked in the lower half of the abdomen. About 8 A. M. he noted that his abdomen was swollen, and soon he became nauseated and vomited. The pain and nausea continued. He was seen again by his local physician and referred to the hospital.

Examination on admission about 18 hours after the injury showed a fairly well developed negro male, apparently with acute abdominal distress. The abdomen was slightly below the plane of the thorax and was symmetrical. No peristaltic waves were seen. It was board-like on pressure and diffusely tender. The tenderness was more marked in the lower half but was not localized. Rebound pain was present in a marked degree. No masses could be felt, no viscera outlined. Temperature 99.8° F., pulse 90, respirations 22. The blood pressure was 100/80; the skin cool and moist. Urinalysis was essentially negative. The white blood count 19,000, with 94 per cent polymorphonuclear cells. There was a moderate left shift in the Schilling index. Further laboratory data were not significant.

A tentative diagnosis of traumatic perforation of an abdominal viscus was made and immediate laparotomy was done under spinal anesthesia. When the peritoneum was opened the abdominal cavity was full of turbid fluid and fecal matter. Evidence of generalized peritonitis was present. About 12 inches proximal to the ileocecal valve was an opening in the ileum about $\frac{1}{2}$ inch in diameter, from which the contents of the intestine were oozing. The perforation was closed with a purse-string suture of black silk. No further injury could be found and the abdominal wound was closed in layers, with drainage.

Post-operative orders included nothing by mouth and parenteral fluids. Recovery was uneventful, except for a wound infection.

Summary

Three cases of traumatic perforation of the ileum, without visible injury to the abdom-

inal wall, are reported. Two of the patients were children.

Recovery took place in all three cases, in spite of the fact that operation was done as late as from 18 hours to about 6 weeks after the accident which resulted in the perforation.

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DISCUSSION ON PAPER OF DR. Q. A. MULKEY

Dr. W. B. Schaefer (Toccoa): I would like to thank Dr. Mulkey for his very excellent presentation of a most timely paper. In this day of automobiles and fast driving we are seeing more and more intra-abdominal fatalities without evident skin and muscle injury, and as Dr. Mulkey has brought out, the mortality rate in these injuries is tremendous, well up into 65 and 70 per cent and it is these which I think we should concentrate upon. It has not been so many years ago that childbirth and appendicitis had high mortality rates, which have been lowered due to the concentration of the medical profession in better management and earlier recognition of pathology present.

I would like to stress, with Dr. Mulkey, those intestinal perforations which are more common in the proximal jejunum and terminal ileum due to their fixation at the duodenum, and to the cecum holding them firmly across the anterior spine and in close proximity to the bone; also ruptures to the liver, spleen and kidney.

It was my privilege some years ago to treat a boy 16 years old who was hit in his left side with a baseball 8 days prior to operation. He went to school for four days after the accident and although he appeared sluggish, showed no undue symptoms for a week's time. He had a small lacerated spleen with severe intra-abdominal hemorrhages. Fortunately after a splenectomy his condition cleared up, but I bring this to you to illustrate how the spleen at the time of injury may show no bleeding at all and later produce a severe hemorrhage. In all lacerations to the spleen, I advocate removal.

Kidney lacerations and hemorrhages will usually respond to conservative treatment better than either the liver or spleen; occasionally it is necessary to perform a nephrectomy. Liver hemorrhages should be controlled by muscle grafts or tamponade along with traumatic sutures.

As to the diagnosis of these abdominal injuries, it reminds me of the doctor who said, "He that opens, may read"—but I believe conservative surgery is the best and the shock should be cared for first; nothing is as beneficial here as a blood transfusion. None of these patients should reach surgery with a blood pressure of less than 90 systolic except as a last resort, for if they survive the operation they are more prone to die of peritonitis.

I would like again to stress close observation, earlier diagnosis, better management and earlier surgery, provided the condition of the patient warrants it, for I feel that 3 well patients with laparotomy is better than 1 dead and 2 well without surgery.

SQUAMOUS CELL CARCINOMA ARISING IN A CYSTIC TERA- TOMA OF THE OVARY*

Report of Case

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EDGAR R. PUND, M.D.

Augusta

Not infrequently we encounter tumors arising in the ovary which on examination are found to contain representatives of the three embryonic layers—ectoderm, mesoderm and entoderm. Because of the pleomorphic character of the constituent elements the term "teratoma" (teras—monster, and oma—tumor) has been applied to the entire group.

Teratomas may be divided into two general varieties—the *solid* and *cystic* forms. As the name implies the former is composed of loose, soft masses of atypical and immature cells which have not reached the stage of differentiation necessary for their classification in the terms usually applied to mature tissues. In the ovary these are rare, malignant and usually fatal. On the other hand the tumors of the cystic variety are, as a rule, made up of completely differentiated tissues so that each may be recognized as similar to the various adult tissues of the human body; these are usually benign. The essential portion of such a tumor is a thickened area in its walls which has been given various appellations by different authors, such as "dermoid ridge," "insular protuberance," "dermoid process," etc. On its inner surface this is covered by stratified squamous epithelium which

is projected outward to form the lining of the cyst walls. In the cavity of the cyst there is a variable amount of semifluid cheesy material, the product of the sebaceous and sweat glands always associated with the skin. Usually hair follicles are present over the dermoid ridge and from them project long strands of tangled hair. In the dermoid ridge itself may occur any tissues which can be found in the human body, but often they are so disorderly arranged that they can not be identified except by microscopic study. The most common tissue recognizable by the naked eye is a ridge of bone which may faintly resemble any of the bones of the body. When it resembles a mandible or maxilla several well-formed teeth may be embedded in it and project from its surface. In one case deciduous teeth had been cast off into the cyst and adult teeth had taken their places.¹ Even more complicated structures such as a rudimentary limb, a lobe of the brain, etc., are more rarely found. The most frequent tissues seen microscopically are stratified squamous epithelium, sebaceous and sweat glands, hair, fat, bronchial epithelium, bone, cartilage, brain, smooth muscle, and thyroid.

Unfortunately, the term "dermoid cyst" is usually applied to these tumors. Since this describes only one portion of the tumor, and in order to avoid confusion with the dermoid inclusion cysts found along the embryonic lines of closure, we prefer the term "cystic teratoma." Cystic teratomas of the ovary are by no means rare. The average incidence according to most authors is 10 per cent of all ovarian tumors. In our experience they are more common; among 24,500 surgical specimens examined over a period of seventeen years at the University of Georgia School of Medicine, we have encountered 230 ovarian tumors (primary and secondary), 77 or 33.4 per cent of which have been classified as cystic teratoma. Ten per cent of these were bilateral and several multilocular. While they may occur at all ages, they are most commonly seen between the ages of 30 and 40 years. Most of the tumors are from 4 to 10 cm. in diameter but this may vary within wide limits, Galabin reporting one which weighed 160 pounds.

As with all tumors, the origin of cystic teratoma of the ovary is shrouded in a nebulous mist, too dense to be penetrated by the

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Fig. 1. Ovarian Tumor, bisected, showing cystic portion above and solid portion below.

light of present day scientific knowledge; and we must content ourselves with theorization. Since many of the fetal derivatives are present, it is natural that these should be considered the consequence of an abortive attempt at the formation of a new individual with only a disorganized chaotic mixture of heterogenous tissues resulting.

Krafka³ has recently reviewed the literature on the etiology of teratomas and critically surveys the four prominent theories, i.e.: first, derivation from fertilized polar bodies; second, the blastomere theory of Bonnet; third, the cell rest theory of Cohnheim, Meyer and Ross; and fourth, the theory of Parthenogenesis of Waldeyer. To him these current theories seem untenable. He advances an "organizer theory" based on the work of Spemann and his coworkers. An organizer develops early in the embryo and induces the neighboring tissues to follow the axial plan of organization. Any derangement of the normal distribution of the organizer may induce the development of secondary embryonic axes at foreign sites, hence teratomas.

Since in the cystic teratoma there may occur any of the tissues which are found normally in the human body, theoretically at least, we may expect to find any type of malignant tumor developing in it. Few such cases have been reported, such as carcinomas

similar to those seen in the breast, round and spindle cell sarcomas, pigmented sarcomas, endotheliomas and even choriocarcinomas. As we would expect, however, since stratified epithelium is always present and in contact with the irritating oily material which fills the cavity of the cyst, squamous cell carcinomas are of much more frequent occurrence. This is variously estimated by different authors at from 1 per cent (Martzolff)⁴ to 5 per cent (Weiner)⁵ of all cystic teratomas of the ovary. In our series of 77 cystic teratomas of the ovary we encountered a primary squamous cell carcinoma in only one case, an incidence of 1.3 per cent of all of these tumors.

In reporting three cases of primary squamous cell carcinoma arising in cystic teratomas, Masson and Ochsenhirt⁶ in 1928 reviewed the literature on this subject and rejected all but thirty-three of the previously reported cases. In 1934 Counsellor and Wellbrock⁷ added four more cases, and Deaver,⁸ Ascanio-Suarez,⁷ and Delany⁷ in the intervening period each reported a single case. In 1936 Kent⁹ summarized four cases of his own, three of whom later died of metastases. Bowles¹⁰ in 1937 was able to find five additional cases in the literature since 1934 and added one of his own to bring the total reported cases to fifty-three. Fein and Hobart¹¹ at the same time reported a case occurring in a 65-year-old Russian who was alive six years after operation without demonstrable metastases. We are reporting the fifty-fifth case.

Twenty-six of these patients were not followed and the outcome was unknown. Only six of the remaining twenty-nine patients were known to be living at the time of publication, the postoperative periods being two years (Ludwig)⁶, five years (Masson and Ochsenhirt)⁶, fifteen years (Counsellor and Wellbrock)⁷, one year (Counsellor and Wellbrock), twenty months (Kent)⁹, and six years (Fein and Hobart)¹¹. Of the remaining patients, three died within seven days of operation; nineteen died in three weeks to one year; and one died of a recurrence after seven years and four months. Thus only four of the twenty-nine patients are definitely known to have survived for a period of five years or longer after the initial operation.

Prior to the secondary involvement of adjacent or distant organs, the symptoms are not distinctive and only those of a benign cystic teratoma of the ovary. Although we may suspect the development of a malignancy when there is a rapid increase in size over a short period of time, it is all but impossible to make the diagnosis of malignancy at a time when the condition may be considered curable. Indeed, the diagnosis is often missed even at operation and is only made by the pathologist. In view of this fact, the relative frequency of the development of malignant disease in these tumors, and the low percentage of survival five years after a malignancy is found, it would seem imperative that, once the diagnosis is established, all cystic teratomas be removed without delay, provided of course that the patient's general condition does not interdict operation.

More and more we are finding that to reduce cancer mortality we must treat the precancerous condition and render it innocuous before the malignancy develops. We should not be deterred from removing cystic teratoma of the ovary by the fact that only one or two of every 100 will develop a malignancy, any more than is the surgeon who removes 1,000 benign nevi in the hope of removing one which may some day become malignant.

Case Report

A married, white, nulliparous, female, aged 60 years, was admitted to the University Hospital complaining of severe continuous pain in the left lower abdominal quadrant of some four or five months' duration. During this time she had noticed progressive weakness and fullness in the same region. No vaginal bleeding had occurred since the menopause some ten years ago. Examination revealed a firm, oval mass the "size of a cantaloup" in the left portion of the pelvis which did not appear to be attached to the uterus.

At operation the abdominal cavity was found to contain a small amount of clear fluid. An oval mass about 15 cm. in diameter occupied the position of the left ovary and was adherent to the body of the uterus at one point. The uterus was small and freely movable. Both tubes were of normal size but their walls were somewhat thickened and their fimbriated ends were sealed. The right ovary was atrophic. Both tubes and ovaries were removed. The postoperative course was uneventful and the patient was dismissed from the hospital two weeks after operation.

Pathologic Examination: The tumor (Fig. 2) was partly cystic and partly solid, the entire mass being 15 cm. in diameter. The cystic portion contained a large amount of yellow, cheesy material and was lined by

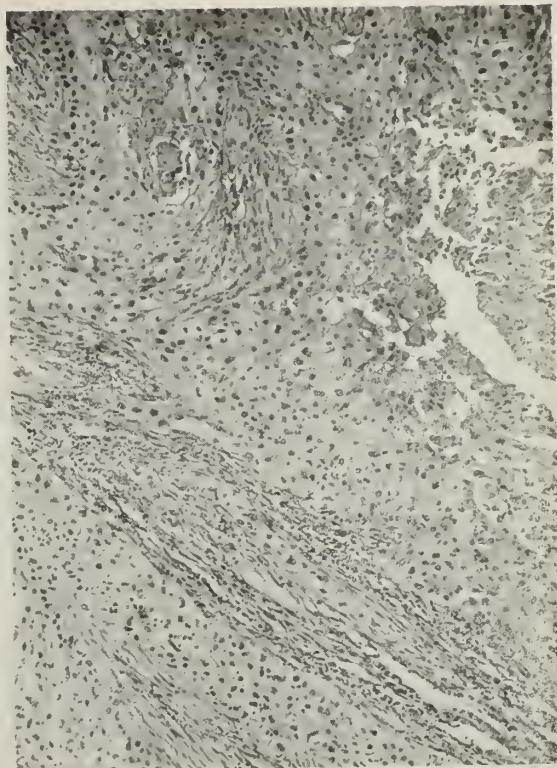


Fig. 2. Squamous cell carcinoma in section from solid portion of tumor.

stratified squamous epithelium, beneath which were numerous sebaceous and sweat glands and an occasional ganglion. Except at one area the walls were thin and covered externally by peritoneum. The solid area in the walls was ovoid measuring 6x4 cm. and was composed of firm, white, opaque tissue. The peritoneal surface at this point was roughened and a number of small tabs were attached to it. The sections from this solid area of the tumor (Fig. 2) showed numerous strands and islands of anaplastic and hyperchromatic polyhedral cells widely infiltrating a dense fibrous stroma. The nuclei contained large, dark-staining nucleoli and mitotic figures were rather numerous. Occasional "pearly-body" formation was seen. About many of the cell nests were large numbers of round cells. Throughout there were many areas of necrosis. One of the attached tabs was composed of smooth muscle (uterine) and was infiltrated by the tumor tissue.

Four months later she was re-admitted with the following history: For the past month the urine had been scant and highly colored and there had been occasional dysuria. For the past week there had been vaginal "spotting" of blood. Vaginal examination at this time revealed thickening and induration of the left broad ligament. The cervix was free of ulceration and erosion, and of the nulliparous type. The uterus could not be mapped out because of tenderness.

The uterus was curetted and radium was inserted. Following this there was an irregular elevation of temperature from 101° to 102° F., and a persistent, foul vaginal discharge which continued until the death of the patient, five months after the curettage and nine

months after removal of the tumor. Three weeks before death there developed a recto-vaginal fistula, which was believed to be due to sloughing following the use of radium. Necropsy was not performed.

The uterine scrapings consisted of masses of tumor tissue similar to that seen in the ovarian tumor and widely infiltrated smooth muscle.

Summary

1. We have presented the fifty-fifth reported case of squamous cell carcinoma arising in a cystic teratoma of the ovary.

2. We prefer the term "cystic teratoma" of the ovary to "dermoid cyst" in order to avoid confusion with sequestration cysts which are composed of only one type of tissue.

3. Since the development of a malignancy in a cystic teratoma of the ovary cannot be definitely determined preoperatively, all such tumors should be removed without delay when the patient's general condition will permit.

4. Primary squamous cell carcinoma of cystic teratoma of the ovary, from reported cases whose outcome is known, has a five year mortality of 87.3 per cent.

5. In order to exclude malignancy all cystic teratomas of the ovary should be examined by a competent pathologist.

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EXHIBIT SYMPOSIUM ON HEART DISEASE

An exhibit symposium on heart disease has been arranged for the Scientific Exhibit at the St. Louis session of the American Medical Association, May 15-19, 1939. The Journal of the American Medical Association for November 26 announces.

The symposium will be presented with the cooperation of the American Heart Association, under the auspices of a committee headed by Dr. Thomas M. McMillan, 2044 Locust Street, Philadelphia.—American Medical Association News, Nov. 24, 1938.

PURULENT MENINGITIS COMPLICATING PARATYPHOID FEVER*†

Report of Case with Recovery

W. EDWARD STOREY, M.D.
Columbus

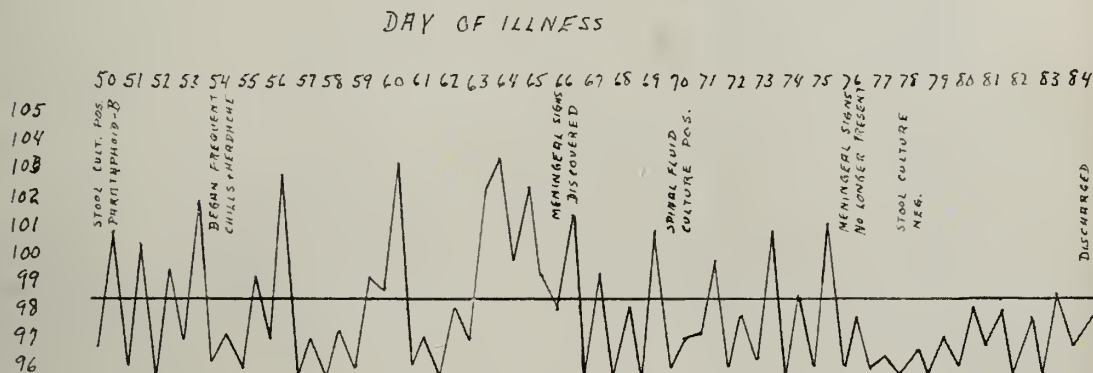
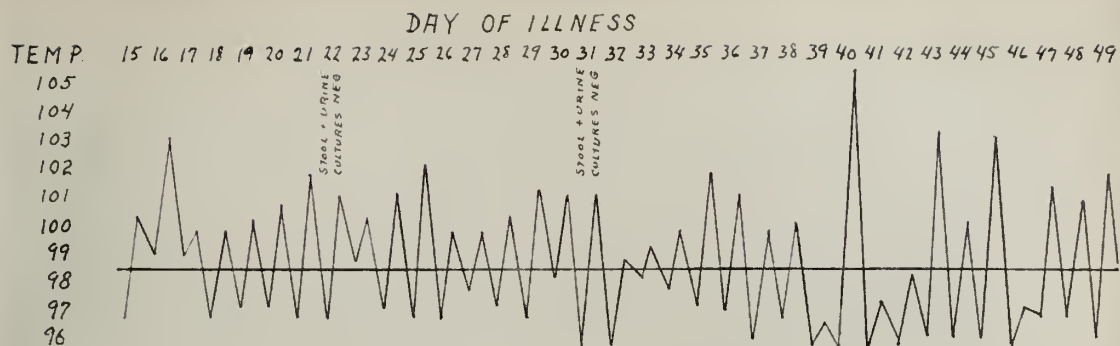
A 23-year-old white male, mechanic, was admitted to the hospital with the history of irregular fever, headache, generalized ague, anorexia, and periodic mild nausea of 14 days duration. Because of the character of the temperature curve and the presence of some pus in the urine the hospital house officer on domiciliary service had been treating him at home for pyelitis but without response. One week before admittance there had been noted on both legs several red, tender spots which approximated in size a ten cent piece. These had occurred nowhere else and had disappeared after a few days. Their true significance has not been determined. There had been no cough, epistaxis, abdominal pain or stool abnormalities. During the previous 6 months there had been no weight loss or disturbance of appetite or digestion and his general strength had been good. A week before the onset he had taken a 300 mile cross-country automobile trip, and he recalled having drunk water at wayside places. The last typhoid vaccine had been received 8 years previously.

The past history revealed no illness pertinent to the case and no operations or injuries. He denied rheumatism, typhoid fever, malarial fever and venereal diseases. The existence of cancer, diabetes, tuberculosis, nervous or mental disease among his relatives was either denied or unknown, and no case similar to his present illness was known among his contacts.

Physical examination disclosed a young man of healthy appearance lying quietly in bed. The temperature was 103.4° F., and the pulse rate 94, regular and of good volume. The color was good and the skin and mucous membranes were without abnormalities. The pupils were round, equal, and reacted well to light and accommodation. The tongue was coated but not furred and the teeth, nose, and throat were clean. The neck was not stiff and there was no adenopathy, thyroid enlargement or venous fullness. The lungs were resonant and no rales were detected. There was no spinal defect. The P.M.I. was 8 cm. left of the midline in the 5th I.S. and no murmurs were heard; B. P. was 118/60 on right. The abdomen was flat and relaxed; no tenderness was elicited and the liver, spleen, and kidneys could not be palpated. The knee jerks were present, equal, and moderately active. Rectal examination yielded no significant findings. The blood count was as follows: R.B.C. 4,400,000 with no defects; Hgb. 90 per cent (Sahli); W.B.C. 9,950 with polymorphonuclear neutrophils 80 per cent, lymphocytes 20 per cent and no abnormal forms. Wassermann and Kahn tests were negative. The urine showed a slight trace of

*From the Department of Medicine, Guy J. Dillard, M. D., physician-in-chief, Case Records of the Columbus City Hospital, Columbus.

†Case Records of the Columbus City Hospital, Columbus. From the Department of Medicine, Dr. Guy J. Dillard, Physician-in-Chief.



TEMPERATURE CHART

Case: Purulent Meningitis Complicating Paratyphoid Fever

albumin and a few pus cells. Blood agglutination tests for the fevers were reported positive for typhoid (1-40) and paratyphoid-B (1-160) and negative for all others. No malarial parasites were found at any time.

The diagnosis of paratyphoid fever was made and expectant management instituted. Twenty-two days after onset of his illness cultures of blood, urine, and feces were negative. The clinical course was characterized by very irregular fever with wide excursions (see chart), poor appetite, and moderate generalized afebrile, but no abdominal or bowel signs. Thirty-one days after onset of illness cultures of urine and stool were again reported negative, but on the 50th day a stool culture showed abundant paratyphoid-B organisms and this remained the case until 1 week before discharge on the 84th day.

On the 54th day the patient experienced a mild chill and a severe headache. There were no suggestive neurologic signs at this time, and the same sequence of events occurred several times during the following 12 days with comparative comfort in the intervals. On the 66th day along with the fever, chill, and headache there was also photophobia, vomiting and intense pain in the back and legs. It was discovered that the neck was rigid and the knee jerks hyperactive; there was a positive Babinski reaction on the right. At lumbar puncture the spinal fluid was found cloudy and under a considerably increased pressure and contained a cell count of 3,681 per cu. mm., with 90 per cent polymorphonuclear neutrophils. Globulin was markedly increased. A culture was made of this sample and later reported nega-

tive; stained smears of the centrifuged spinal fluid on this and several subsequent occasions did not reveal the causative organism. A roentgenogram of the skull for possible brain abscess failed to show this or other abnormality. Lumbar punctures were done at frequent intervals during the following 9 days and always the stained smears showed no organisms; but a culture made on the 5th day of meningeal symptoms (70th day of entire illness) contained a Gram-negative diplococcus which was considered too large for meningococcus. The spinal cell count ranged between 5,400 as on the 3rd day, and 291 as on the 9th day of meningeal symptoms, and always with a preponderance of polymorphonuclear neutrophils. Subsequent to the 10th day of meningeal symptoms the fever abated and the neurologic symptoms and signs disappeared and the patient recovered. On the 84th day of the entire illness (19 days after onset of meningeal symptoms) when the temperature had been normal for 9 days, and the stool culture was negative, the patient was discharged. Final diagnoses: (1) Paratyphoid fever; (2) Purulent meningitis complicating paratyphoid fever and probably due to the same organism.

Comment: In a recent review of the literature by Hageman it is stated that purulent meningitis due to typhoid infections is exceedingly uncommon, but does occur, and all authentic cases heretofore reported were fatal. Hageman reported such a case with recovery and substantiated it with most careful clinical notes and bacteriologic studies. Interesting features of his case were the paucity of physical signs and symptoms

suggesting typhoid fever and the marked pleomorphism shown by the typhoid bacillus when first recovered from the spinal fluid in an ordinary culture medium.

This case is instructive because (1) Paratyphoid fever, like typhoid fever, may be complicated by purulent meningitis in which latter the spinal fluid findings may be most difficult to correlate with a suspected, independent, common, pyogenic meningitis; (2) in this case the possibility of a contamination in the spinal fluid culture may account for the large Gram-negative diplococcus, but in the light of Hageman's report it is also quite possible and even likely that the organism was one of the variable forms described. It is unfortunate that Hageman's report had not been published at the time this patient was under observation because here we might have had some guide as to a more exhaustive bacteriologic investigation such as he made. (3) Since most cases of purulent meningitis due to the common pyogenic organisms may be readily classified etiologically by a simple stained smear of the centrifuged spinal fluid, any case occurring during the course of typhoid or paratyphoid fever and not identifiable by this means is possibly due to a member of the typhoid group of organisms and the spinal fluid should be carefully cultured; (4) the typhoid group of organisms may, on various culture media, present forms quite at variance with the expected appearance; (5) the wide clinical variations and lack of truly pathognomonic signs in paratyphoid fever make it advisable to do routine blood agglutination tests and stool cultures in any case of purulent meningitis of obscure etiology; (6) it may be quite late in the course of paratyphoid fever before the organisms are recovered from the stools. In this case, though searched for, they were not found as late as the 31st day of illness; (7) treatment in this case consisted of such general measures as would facilitate natural recovery from paratyphoid fever and supplemented by frequent lumbar punctures. Very likely the patient recovered by virtue of his natural body forces.

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HOW THE A.M.A. PROTECTS YOU

Under date of October 26, 1938, Dr. Lawrence C. Salter, Press Relations, associated with Dr. Morris Fishbein, editor of *The Journal of the American Medical Association*, writes in part in reference to press release by the Public Relations Bureau of THE MEDICAL ASSOCIATION OF GEORGIA as follows:

"I have just taken over the work of assisting Doctor Fishbein in press and public relations. Your release of October 14 on 'How the A.M.A. Protects You' is an excellent piece of work. My congratulations. If more state associations did this sort of work there would be less misunderstanding and lack of knowledge of the beneficent role that organized medicine and the physician play in the life of the American nation."

MISTAKES IN THE DIAGNOSIS OF CANCER*

Your committee has ascertained from a study of cancer clinic admissions that there are a number of frequently repeated delays in seeking early diagnosis and treatment that must, unfortunately, be attributed to careless diagnosis and faulty, inadequate or improper early treatment.

The mistakes that have been observed most frequently are the following:

1. Treating malignant skin lesions, which the physician does not correctly diagnose, with ointments, silver nitrate, mercuriochrome, or even inadequate excisions.

2. Ointments and silver nitrate on early cancers of the lip until the growth has become infiltrating or even has glandular metastases.

3. Giving mouth washes and local applications to patients with ulcers or growths of considerable duration in the mouth without making any real attempt toward accurate diagnosis.

4. Allowing hoarseness, occurring without obvious cause, to be treated with sprays and medicines, and thus allowing the patient to be led into a feeling of security, when an early laryngoscopic examination would have discovered laryngeal cancer.

5. Continuing the medical treatment of unrelieved digestive disturbances when an early gastro-intestinal x-ray examination would have disclosed the presence of a growth.

6. Failure to make a digital examination and, if necessary, an examination with a proctoscope, of every patient with rectal bleeding. (This happens often.)

7. Allowing women who have spotting or bleeding between periods, and excessive and increasing flowing at menstruation, to go along on medical treatment without a vaginal examination. Allowing women who have spotting or flowing after menopause to continue without an examination, or any attempt to ascertain the cause. (These danger signals are too often unheeded.)

To prevent the continuance of such instances of neglect is a direct responsibility of the medical profession.

*From report of Cancer Committee, New Hampshire Medical Society.

THE PRESIDENT'S PAGE

SOLVING OUR PROBLEMS

Governor E. D. Rivers has cooperated with the State Board of Health and all physicians of the State to make Georgia a healthier place in which to live. I will not attempt to recount all that has been achieved; suffice it to say that thousands of lives have been saved through more efficient public health measures and improved facilities for the medical and hospital care of our people. Already many of our cancer patients can look forward to longer lives, and in many instances permanent cures, because they received prompt state aid. Hundreds of our crippled children will have a happier Christmas this year because their little bodies have been made better through the efforts of the personnel of the Department of Public Welfare.

Commissioners of Health Needed

Trained personnel is necessary for the proper operation of any health department. Georgia's Health for November, 1938, official publication of our State Department of Public Health, states:

"It is encouraging to know that the number of Georgia counties with full-time public health departments has practically doubled in the last four years, and that the number of persons engaged in public health work has more than doubled. While this is a very creditable showing, it is not nearly as good as it should be, for every county should have the benefit of this service. More counties would have been added to this list if a sufficient number of health officers could have been secured.

"For the last three years, there has been a constant waiting list of from three to six counties desiring to establish health departments. However, in many instances, these counties have had to wait for several months before qualified health officers were available and departments could be established. At this time, several counties are waiting for the present class of physicians who are in training for public health service to complete their training so that a health program can be begun, and after January 1, 1939, there will be a demand from other counties.

"The State Department of Public Health is in position to offer training to physicians who desire to enter this field of service, provided they are not more than 35 years of age and are otherwise qualified. This training is given without cost to the trainee. Physicians who are interested are invited to write the department for further information."

THE MEDICAL ASSOCIATION OF GEORGIA is appreciative of the cooperation of all pub-



lic officials in solving the health problems of our citizens. The Association has worked, and will continue to strive, to see that each Georgian has adequate health protection. Only recently Dr. James E. Paullin of Atlanta, past president of the Association, and associates, compiled data to determine some of the health needs of the State. His committee has formulated plans to remedy some of the conditions which now exist.

In addition to more public health facilities, perhaps the greatest present needs are: 1, more small community hospitals throughout the State; and 2, redistribution of our physicians. The first problem will be met as soon as county medical societies and county officials get together and take advantage of the constitutional amendment which will permit counties to levy a tax for the medical and hospital care of their indigent sick. The redistribution of physicians will take place just as soon as the people of the various communities recognize the fact that they must cooperate in all medical and hospital affairs, building new hospitals where needed.

The General Assembly will meet next month. Let us give our problems serious consideration, and may all of us help our State Medical Association pass the Basic Science Bill to protect our people against unqualified practitioners of the Healing Art.

May I wish for all of our members and their families a Happy Christmas and Prosperous New Year?

GRADY N. COKER, M.D.

THE JOURNAL

OF THE
MEDICAL ASSOCIATION OF GEORGIA
Devoted to the Welfare of the Medical Association of Georgia

478 Peachtree Street, N. E., Atlanta, Ga.

DECEMBER, 1938

ORGANIZATION

Medical knowledge has advanced through organization. The unselfish rule adopted by physicians long ago of making known to each other and the public valuable discoveries so that sufferers everywhere might be helped, brings daily joy and comfort, and frequently a return to health and happiness, to millions of sick people.

It is true that there are some unfortunate persons in all communities who are financially unable to secure all these benefits. We frankly admit that they are in urgent need of financial aid if we are to render them adequate medical, hospital and nursing services. Some insufficiently informed individuals, after hasty and superficial consideration, appear to advocate a complete upheaval and erecting upon the ruins a new system of medical care, prescribed without consulting organized medicine. This is about as senseless as would be the shooting of all educators to advance knowledge.

The rapid advancement in preventive and curative medicine is largely a result of satisfied Doctors of Medicine who devote their efforts and studies toward diagnosing and treating disease. It would be most unfortunate to divert the minds of these earnest workers to a study of report forms devised by politicians.

It is still true there are few leaders and many followers. The latter, when informed, are more trustworthy. It behooves us, then, as informed units in a great organization to teach our neighbors and friends about the value of expert knowledge, shaping and directing certain fundamental changes which are admittedly needed.

It is time to lay aside all selfish interests and prejudices and join organized medicine where you may render a service which will be of greatest help to your people, and therefore to you. Medical organization is greater than any individual within or without such body. I know of no good reason why every phy-

sician in Georgia should not be a member of THE MEDICAL ASSOCIATION OF GEORGIA.

It is a rare privilege to stand guard over your patients and communities ever ready to defend against unseen and frequently unexpected enemies. Long training and expensive equipment are essential requirements to a successful practice of medicine. But sufficient financial return is also necessary to good citizenship. It is highly improbable that a plan worked out without the knowledge and consent of organized medicine will carry sufficient remuneration to satisfy us, nor will it invite ambitious young men and young women of future generations to enter the field of medicine. Let us analyze and agree only to changes which we know would benefit humanity.

J. A. REDFEARN, M.D.

RULES—REGULATIONS—ETHICS

If the old maxim, "Order is Heaven's first law," is true, and it must be in that place where everything is perfect, how much more should it be sought after mundanely where breaches of it are common and result in so much confusion, misunderstanding and sorrow. We like to think of the medical profession as the most orderly organization in the world, with the oldest code of moral ethics. As no chain is stronger than its weakest link, so the organization of medicine is dependent for its strength upon strict adherence of all its bodies to the rules and regulations governing these component parts.

A great deal of local autonomy is given the ultimate component parts of organized medicine in the United States, but as these county or component units of both state and national bodies are the only doors through which one may enter the general set-up of organized medicine, it behooves each county unit to conduct its affairs along certain basic lines of regulation that must be fundamentally represented in the policies of the whole as *wholesome* and *ethical*. A certain amount of elasticity is permissible, but the ultimate result of local action must be considered before any radical departure from accepted or acceptable procedures in the body as a whole should be undertaken.

Locally, the county medical society may accept for membership anyone qualifying under state and national body standards; may

remit his dues to the local organization if it so desires; may classify his connection so far as the local society is concerned; but the local society has not the right, without the payment of his financial obligations to district or state or national bodies, to maintain him in good standing as a member of organized medicine unless his classification under the regulations, constitutions and by-laws of these organizations permit such.

For example, so far as THE MEDICAL ASSOCIATION OF GEORGIA is concerned, the classifications of membership, and members' dues and exemptions, are clearly stated in the constitution and by-laws. *No county society can void them by local action.* The county society may accept qualified members of the profession meeting all requirements of the higher organizations of which it is a component part, but it is duty bound to have all its members meet the obligations of every kind exacted of them as members of the state organization.

God forbid that the practice of medicine should ever become a soulless, highly commercialized, intensely competitive business instead of a noble profession characterized by an unapproachable moral, and we might say spiritual, code of ethical conduct. It might be wise to suggest that all medical schools throughout the nation begin again to teach this code to their students. The public is looking more and more to the standards of medical practice. It notes the slightest deviations from the old accepted standards of inter-professional behavior. Disrepute follows questionable practices, disorder and division are bound to result from violation of either the letter or spirit of the constitutions and by-laws of state and national medical organizations. *Be faithful to the trust imposed in us as the producers of the world's first code of ethics.*

J. W. SIMMONS, M.D.,
Parliamentarian.

QUOTED FROM HERTZLER'S "THE HORSE
AND BUGGY DOCTOR"

"The freedom from disease that the public now enjoys is the result of the labor of the regular medical profession. It is all right for those with minor ailments, or with none at all, to consort with the cultists. It is all right to do fool things if someone is standing by, able to protect us from the fruits of our folly. But, let it be emphasized, if the cultists inherited the earth

the epidemic diseases would be upon us with their original pristine terror."

GRADUATE MEDICAL EDUCATION

Dr. Robin C. Buerki spent Wednesday morning in our institution as representative of the Commission on Graduate Medical Education. Dr. Buerki asked me about post-graduate medical education in Georgia and I related to him the events of the last two and one-half years with particular reference to the assumption of the responsibility for this work by the State Medical Association.

Dr. Buerki approved in principle the report made by our committee to the House of Delegates but he stated that what had happened in Georgia had happened in other states when the work was taken away from the direct supervision of the medical schools. I have been waiting patiently now for more than two years for county societies to ask for this work and my patience has become exhausted. Therefore I am writing to inquire if you will publish a notice in *The Journal* stating that post-graduate instruction is available whenever requested by county societies. If you like you can publish the entire report of the committee or you can condense it and publish the essence of the report. As chairman of this committee, I feel the responsibility of going ahead with this work and, if we are going to continue to depend on the new plan, I am certain that the facts must be made known to the physicians of the State and I know of no better way than through publication of them in *The Journal*.

G. LOBARD KELLY, M.D., Dean
University of Georgia
School of Medicine.

Augusta, Ga.
Nov. 11, 1938.

GEORGIA PEDIATRIC SOCIETY MEETING

The annual scientific meeting of the Georgia Pediatric Society will be held in Augusta, Jan. 12, 1939, at the Forrest Hills Hotel. The afternoon session will be preceded by a luncheon at 1 P. M. The evening session will begin at 8 P. M.

Guest speakers invited for this year's program are: Dr. Charles Hendee Smith, professor of pediatrics at New York University and chief of the pediatric staff of Bellevue Hospital; Dr. Alexis F. Hartmann, professor of pediatrics at Washington University and chief of staff of St. Louis Children's Hospital; and Dr. Thomas B. Cooley, Detroit, Mich., professor of pediatrics at the University of Michigan.

WOMAN'S AUXILIARY: OFFICERS 1938-1939

President—Mrs. Warren A. Coleman, Eastman.
 President-Elect—Mrs. Eustace A. Allen, 18 Col-
 lier Road, N. W., Atlanta.

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 Second Vice-President—Mrs. Jas. L. Nevil,
 Metter.

Third Vice-President—Mrs. D. T. Rankin, Alto.

Parliamentarian—Mrs. Ralph H. Chaney, Forest Hills, Augusta.

Recording Secretary—Mrs. Cleveland Thompson,
 Millen.

Corresponding Secretary—Mrs. J. Cox Wall,
 Eastman.

Historian—Mrs. C. C. Brannen, Moultrie.

Treasurer—Mrs. Robert Woodbury, Augusta.

Barrow County

The annual barbecue for the doctors and their families of Jackson-Barrow Medical Society was held on August 1 at the recreational park in Commerce.

Mrs. W. T. Randolph entertained the Barrow County Auxiliary on September 14 at a beautifully appointed luncheon with Miss Dena Walsh, an army nurse stationed at Fort McPherson, and Mrs. George Barnette, hostess for the Fourth Corps Area headquarters and a social service worker for Fulton county, as honor guests. Miss Walsh spoke interestingly of the history of the Army Nurses Corps.

The Auxiliary held its regular meeting on September 30 at the home of Mrs. Alex Russell with Mrs. W. T. Randolph presiding. Communications were read and acted upon, plans made for a Hygeia campaign, and reports of the state convention and the ninth district meeting were given. The hostess served a delicious salad course to Mesdames Ralph Freeman, Jefferson; W. T. Randolph, R. P. Adams, W. L. Mathews, C. B. Almand, S. T. Ross and Ernest Harris, of Windor.

Officers and chairman for 1938-39 are Mesdames W. T. Randolph, president; S. T. Ross, vice-president; E. R. Harris, recording secretary; Alex Russell, corresponding secretary; C. B. Almand, treasurer; W. L. Mathews, historian; Alex Russell, health education, public relations and Hygeia; E. M. McDonald, Jane Todd Crawford Memorial and organization; C. B. Almand, legislation and health films; W. L. Mathews, history and research in romance of medicine; E. R. Harris, publicity; S. T. Ross, scrapbook and program; E. M. McDonald, Alex Russell and R. P. Adams, Doctors' Day and student loan fund.

Eighth District

The Auxiliary to the Eighth District met in Douglas on October 11 at the Doucuff Hotel. Mrs. Louis Smith, of Lakeland, district manager, presided and gave the opening address. Dr. Grady Coker, of Canton, president of the Medical Association of Georgia, spoke on "Socialized Medicine and the Extension of Medical Care to the Underprivileged." Miss Antoinette Sapp, of Doug-

las, gave several readings and Miss Patricia Tanner, of Douglas, gave accordion selections. Dinner was served at the Golf Club that evening.

Mrs. Smith appointed the following committee chairmen: student loan, Mrs. Kenneth McCullough, Waycross; health film, Mrs. J. F. Mixson, Valdosta; public relations, Mrs. W. F. Reavis, Waycross; legislation, Mrs. C. M. Stephens, Waycross; press and publicity, Mrs. Leo Smith, Waycross; Doctors' Day, Mrs. J. E. Penland, Waycross; research and romance in medicine, Mrs. T. C. Williams, Valdosta; Jane Todd Crawford, Mrs. P. H. Askew, Lakeland; Hygeia, Mrs. Raymond Smith, Hahira; and health education, Mrs. Tom Smith, Valdosta.

Richmond County

The Auxiliary to the Richmond County Medical Society resumed its fall activities at a recent meeting held at the Augusta home of Mrs. Eugene Matthews, assisted by Mrs. Harry Harper and Mrs. Robert Woodbury. Mrs. Ralph Chaney led a discussion on the National Health Conference. Plans were made for a benefit party and for completing the room in the pediatric department of the University Hospital. A social hour followed.

Ninth District

The Auxiliary to the Ninth District Medical Society met in Toccoa on September 21. Mrs. Bruce Schaefer, Toccoa, president, presided. Counties represented were: Barrow, Cherokee-Pickens, Habersham and Stephens. Reports were made. The local auxiliaries have held regular meetings and been active in their work.

Visitors from Atlanta welcomed were: Mrs. Eustace Allen and Mrs. W. A. Selman. The devotional was led by Mrs. W. H. Garrison, Clarksville. Mrs. J. E. D. Isbell, Toccoa, welcomed the guests. Mrs. Chas. T. Hardman, Tallulah Falls, responded.

Mrs. Eustace Allen, Atlanta, president-elect of the State Auxiliary, spoke on the importance of the work and the necessity of all members knowing the scope of the Auxiliary's activities. The objectives for 1938-39 were read and discussed.

A committee was appointed to formulate and write the constitution and by-laws.

Dr. Henry Poer, Atlanta, spoke on the "Relation of the Thyroid to Everyday Life and the Vital Function of the Gland."

Dr. Grady Coker, Canton, president of the Association, spoke on "Government Control of Certain Phases of Medical Practice" and the special session of the House of Delegates of the A.M.A.

Ware County

Mrs. C. M. Stephens entertained 13 members of the Ware County Medical Auxiliary at her home on Hill Avenue, Waycross, on October sixth.

Much interest on the part of the members was evidenced in the proposed "History of Georgia Medicine" and Mrs. W. M. Folks, as chairman of the committee on research, reported some interesting information which she had obtained concerning the early days of medicine in Ware County. Mrs. Folks and her committee, Mrs. J. L. Walker and Mrs. C. M. Stephens, are doing a bit of thorough research, and as a result of it the Auxiliary hopes to contribute one of the most interesting chapters to be found in the book.

The members present voted to continue the practice of placing gift subscriptions of Hygeia in some of the schools of the county, and this year it was decided to send a six-month's subscription to Woodward-Godwin, Braganza, Manor and Wacona Schools.

The Auxiliary as a whole is very interested in the present question of governmental control of medicine and Mrs. Stephens called the attention of the members to the article of Doctor Myers in the September *Journal*, "What Does the Government Propose to Do About the Practice of Medicine?"

Mrs. W. L. Pomeroy read Mrs. Chaney's report to the House of Delegates of the Association which appeared in the July issue of the *Journal*.

Following adjournment Mrs. Stephens served a delicious luncheon to her guests.

SOUTHERN MEDICAL JOURNALS WANTED

The Abner W. Calhoun Medical Library of Emory University, Emory University, Georgia, is collecting southern medical periodicals of all dates. Anyone who wishes to have such old medical journals reserved and would like to donate them to this library is requested to communicate with Miss Mildred Jordan, the Librarian, at the above address. It is thought that such literature might be found, especially in the libraries of the older practitioners. Complete files of southern medical periodicals for the past two or three decades are possessed by the Calhoun Library, but most files of the older periodicals are very incomplete. The Calhoun Library extends its services to members of the medical profession all over the South. Usually the journals desired are lost, destroyed or stored away in places where they are never seen.

NEWS ITEMS

THE WARE COUNTY MEDICAL SOCIETY met at the Phoenix Hotel, Waycross, November 2. Members were guests of Dr. R. L. Johnson and Dr. W. L. Pomeroy, Waycross, at dinner.

THE SECOND DISTRICT MEDICAL SOCIETY will meet at Colquitt on April 14, 1939. Dr. H. B. Jenkins, Donalsonville, will read a paper on *Medicine*; Dr. H. M. McKemie, Albany, *Surgery*; Dr. J. J. Collins, Thomasville, *Specific X-Ray Therapy*.

THE RANDOLPH COUNTY MEDICAL SOCIETY met at the Patterson Hospital, Cuthbert, November 3. Dr. J. C. Patterson was the principal speaker.

THE COLQUITT COUNTY MEDICAL SOCIETY met at Moultrie on October 27. Titles of scientific papers on the program were: *Prostatic Obstruction*, by Dr. Rudolph Bell, Thomasville; *Prenatal Care*, Dr. Kirk Shepard, Fort Screven. New members reported were: Dr. Sam Withers and Dr. R. E. Stegall, both of Moultrie.

THE REGULAR STAFF MEETING of Emory University Hospital was held on November 7. The following physicians presented cases and discussed them: Dr. Vernon E. Powell, Dr. C. W. Strickler, Sr., Dr. Fred Rudder, Dr. Ed F. Fincher, Jr., Dr. Wm. G. Hamm, and Dr. Grady E. Clay, all of Atlanta.

THE MUSCOGEE COUNTY MEDICAL SOCIETY met at the Ralston Hotel, Columbus, October 25. Officers elected for the ensuing year were: Dr. Frank Schley, president; Dr. Arthur N. Berry, vice-president; Dr. W. Edward Storey, secretary-treasurer. Dr. Grady N. Coker, Canton, president of the Association, spoke on *Problems Facing the Medical Profession*.

THE MACON MEDICAL SOCIETY of Bibb County met at Ridley Hall, Macon, November 1. The program consisted of *Report of Clinical Cases*.

DR. WILLIAM PERRIN NICOLSON, JR., Atlanta, was guest speaker at the Lake County Medical Center, Florida, November 10. He spoke on *Cancer of the Breast, Its Diagnosis and Management*.

THE GEORGIA MEDICAL SOCIETY, Savannah, met on November 22. Dr. T. H. D. Griffiths spoke on *Yellow Fever—Newer Knowledge and Recent Advances in Prophylaxis*; discussion led by Dr. J. W. Daniel, Sr., and Dr. Ralph Porter. Dr. L. M. Freedman reported a case, *Cervical Polyp in Pregnancy*.

THE THIRD DISTRICT MEDICAL SOCIETY met at Cordele, November 9. Dr. H. J. Bickerstaff, Atlanta, State Department of Public Health, read a paper entitled *Treatment of Asphyxia of the New-Born*; Dr. G. S. Murray, Columbus, *Fibrositis*, discussion led by Dr. P. L. Williams, Cordele, and Dr. J. Cox Wall, Eastman. Dr. S. A. Scruggs, Americus, reported two cases of *Primary Mastoid*; Dr. T. C. Davison, Atlanta, *Acute Appendicitis*, discussion led by Dr. L. S. Harp, Marshallville, and Dr. W. L. Cooke, Columbus; Dr. F. B. Schley, Columbus, *The Relation of Allergy to the Infantile Diatheses*, discussion led by Dr. Lewis Abram, Fitzgerald, and Dr. B. J. Wise, Plains; Dr.

S. Ross Brown, Atlanta, State Department of Public Health. *The Free Distribution of Drugs, and the Reporting of Syphilis Cases.*

DR. H. G. HUEY'S HOSPITAL at Homerville has been reopened, according to announcement in the Homerville News.

THE GEORGIA INDUSTRIAL SURGEONS ASSOCIATION held its first annual meeting on Sea Island Beach at the Cloister Hotel, November 5. Dr. C. F. Holton, Savannah, president, called the meeting to order. Subject of the president's address was *Plans and Purposes of the Organization*; Dr. Robert Drane, Savannah, *Importance of the X-Ray in Industrial Work*; Dr. Lon Grove, Atlanta, *The Organization of a Medical Service in Industry*; Mr. A. B. Robertson, Atlanta, Traveler's Insurance Company, *The Problem of the Claim Men*; Mr. Arlie D. Tucker, Atlanta, Director State Industrial Board, *Our Problems*; Mr. J. H. Allen, Savannah, president of the Union Bag and Paper Co., Savannah, *The Employers Interest in Industrial Practice*. The closing features of the meeting consisted of a round table discussion. Officers of the association are: Dr. C. F. Holton, Savannah, president; Dr. R. L. Rhodes, Augusta, vice-president; Dr. Jno. W. Simmons, Brunswick, secretary-treasurer.

DR. SAMUEL F. ROSEN, Savannah, has been elected to membership in the American Academy of Dermatology.

THE BULLOCH - CANDLER - EVANS COUNTIES MEDICAL SOCIETY met at Metter on November 9. Dr. R. L. Cone, Statesboro, read a paper on *Pneumonia*; discussion was led by Dr. B. B. Jones, Metter. Dr. John Mooney, Jr., Statesboro, reported a case of *Perinephritic Abscess*.

DR. GEORGE BACHMANN, Emory University, has been elected to membership in the New York Academy of Science. Dr. Bachmann is professor of physiology at Emory University School of Medicine.

DR. H. L. ERWIN and DR. TRAMMELL STARR, both of Dalton, attended surgery clinics in New Orleans the first week in November.

DR. T. S. CLAY, Savannah, has been appointed assistant surgeon general of the Georgia Division of the United Confederate Veterans.

DR. AND MRS. CHARLES W. STEPHENS, Ringgold, entertained the members of the Walker-Catoosa County Medical Society at dinner in their home on November 14.

THE GEORGIA MEDICAL SOCIETY, Savannah, met on November 8. The scientific program consisted of titles of papers as follows: *Cancer of the Lower Lip—Illustrated with Lantern Slides*, Dr. Leonard J. Hahne, discussed by Dr. J. K. Quattlebaum and Dr. S. F. Rosen; report of case, *Foreign Body in the Bladder*, Dr. S. Elliott Wilson.

THE MONTHLY STAFF MEETING of the Crawford W. Long Memorial Hospital, Atlanta, was held on

November 10. Mortalities discussed were: *Acute Nephritis*, by Dr. B. Russell Burke and Dr. H. C. Crawford; *Pyelonephritis*, Dr. E. G. Ballenger, Dr. Harold P. McDonald and Dr. R. C. Coleman; *Acute Lobar Pneumonia*, Dr. Frank K. Boland and Dr. Kells Boland; *Fractured Clavicle and Lacerations of the Scalp*, Dr. Frank K. Boland and Dr. Kells Boland; *Bilateral Bronchopneumonia, Pulmonary Edema from Myocardial Failure, Mitral Stenosis*, Dr. E. L. Graydon; *General Peritonitis*, Dr. E. L. Graydon; *Third Stage Glomerulo-Nephritis*, Dr. L. Minor Blackford; *General Peritonitis*, Dr. J. C. Ivey; *Sub-Arachnoid Hemorrhage*, Dr. J. C. Ivey; *Tumor of Pancreas, Possibly Primary Carcinoma*, Dr. H. M. S. Adams.

MEDICAL ASSOCIATION OF GEORGIA

Ninetieth Annual Session

April 25, 26, 27, 28, 1939

Atlanta

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1938-1939

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| 4. Kenneth S. Hunt (1939) | Griffin |

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| | | | |
|------------------------------------------------------|------------------|------------------------------------------------------------|---------------|
| Ralph H. Chaney | Augusta | Fourth District | |
| <i>Post-Graduate Study</i> | | | |
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| Russell H. Oppenheimer | Atlanta | Emory R. Park | LaGrange |
| Richard Torpin | Augusta | Fifth District | |
| Olin Cofer | Atlanta | E. D. Colvin | Atlanta |
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| R. C. Franklin | Swainsboro | Fred H. Simonton | Chickamauga |
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| <i>Social Security Act</i> | | C. M. Stephens | Waycross |
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| J. W. Thurmond | Augusta | Geo. C. Brooke | Canton |
| John P. Turk | Nelson | Tenth District | |
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| C. F. Holton, Chairman | Savannah | <i>Ex Officio</i> | |
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| T. P. Goodwyn | Atlanta | Public Health, Atlanta. | |
| W. A. Newman | Macon | <i>Fraternal Delegate to the</i> | |
| J. T. McCall | Rome | <i>Georgia Dental Association</i> | |
| <i>Tuberculosis</i> | | T. L. Byrd | Atlanta |
| C. H. Holmes, Chairman | Atlanta | <i>Fraternal Delegate to the</i> | |
| H. C. Schenck | Atlanta | <i>Georgia Pharmaceutical Association</i> | |
| C. D. Whelchel | Gainesville | C. D. Vinson | Atlanta |
| Wm. C. Cook | Columbus | <i>Fraternal Delegates to Other State Meetings</i> | |
| H. C. Atkinson | Macon | <i>To Visit Alabama:</i> Thomas Chason, Donalsonville; | |
| R. C. McGahee | Augusta | C. O. Williams, West Point. | |
| R. V. Martin | Savannah | <i>To Visit Florida:</i> Wm. Willis Anderson, Atlanta; | |
| E. F. Wahl | Thomasville | Chas. R. Andrews, Canton; Arthur G. Fort, At- | |
| J. A. Simpson | Athens | lanta; T. C. Davison, Atlanta. | |
| W. H. Lewis | Rome | <i>To Visit North Carolina:</i> Clarence L. Ayers, Toccoa; | |
| <i>Scientific Exhibit</i> | | Linton Gerdine, Athens; J. A. Green, Clayton; O. | |
| Mark S. Dougherty, Jr., General Chairman | Atlanta | N. Harden, Cornelia. | |
| Roy R. Kracke, Co-Chairman | Emory University | <i>To Visit South Carolina:</i> W. F. Reavis, Waycross; | |
| Fred A. Mettler, Co-Chairman | Augusta | Wm. A. Mulherin, Augusta; H. J. Rosenberg, At- | |
| Lee Howard | Savannah | lanta. | |
| Everett L. Bishop | Atlanta | <i>To Visit Tennessee:</i> Richard Binion, Milledgeville; | |
| Jas. N. Brawner, Jr. | Atlanta | D. L. Wood, Dalton; W. R. Richards, Calhoun. | |
| A. F. Saunders | Valdosta | | |
| J. H. Mull | Rome | | |
| W. Ed Storey | Columbus | | |
| M. A. Fort | Bainbridge | | |
| Roy A. Hill | Thomasville | | |
| T. F. Sellers | Atlanta | | |
| <i>Study of Maternal Mortality and Infant Deaths</i> | | | |
| H. F. Sharpley, Jr., Chairman | Savannah | | |
| <i>First District</i> | | | |
| A. J. Mooney | Statesboro | | |
| H. G. Lee | Millen | | |
| <i>Second District</i> | | | |
| W. L. Wilkinson | Bainbridge | | |
| W. W. Jarrell | Thomasville | | |
| <i>Third District</i> | | | |
| Herschel A. Smith | Americus | | |
| F. B. Schley | Columbus | | |

The JOURNAL would like to record the scientific work of Georgia doctors. It earnestly requests, therefore, that each physician in the State who publishes a contribution in some other medical periodical submit an abstract of the article for these columns.

Please pay your 1939 dues promptly and be assured of the benefits of organized medicine.

The American Medical Association now has more than 110,000 members.

Dr. James B. Murphy, Chief of the Cancer Research Division of the Rockefeller Institute, New York, and Dr. Mont Rogers Reid, Director of Surgical Service of the Cincinnati General Hospital and Professor of Surgery at the University of Cincinnati, were named today as new members of the National Advisory Cancer Council for three-year terms.

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Names of all Members and Officers are published as corrected by Secretaries of County Societies.

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 Holmes, L. P., Southern Finance Bldg., Augusta
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 Kilpatrick, A. J., 407 Seventh St., Augusta
 Kilpatrick, Chas. M., 1345 Greene St., Augusta
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 Lewis, S. J., Southern Finance Bldg., Augusta
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 McGahee, Robert C., 1345 Greene St., Augusta
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 Michel, H. M., Southern Finance Bldg., Augusta
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 Mulherin, Philip A., 1001 Greene St., Augusta
 Mulherin, W. A., 1001 Greene St., Augusta
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 Phinizy, Thomas, 501 Greene St., Augusta
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 Robertson, J. Righton, 1345 Green St., Augusta

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NEWS ITEMS

THE CLINICAL SOCIETY of the New York Polyclinic Medical School and Hospital held its meeting on Monday evening, December 5th, 1938. The program was as follows: *Case Report—Carcinoma of the Male Breast*, George Shetter, M.D. Papers of the evening: *End Results in Tuberculosis of Bone*, by Mather Cleveland, St. Luke's Hospital, New York City; discussion opened by David M. Bosworth, M.D. *Physiology of Vitamins*, by George R. Cowgill, M.D., Ph.D., Professor of Chemistry, Yale University; discussion opened by Frank D. Carroll, M.D., Martin G. Vorhous, M.D., and Norman Jolliffe, M.D. *Intra-nasal Sinus Operations* (illustrated by motion pictures), by Lee M. Hurd, M.D., New York Polyclinic Hospital.

DR. EVERARD A. WILCOX has returned to his former home, Augusta, and resumed his practice of medicine in the Doctors Building, 1345 Greene Street.

THE SOUTHERN MEDICAL ASSOCIATION held its annual meeting in Oklahoma City, Oklahoma, November 16, 17, 18, 19, 1938. Members from Georgia registered were: Doctors Herbert S. Alden, Atlanta; H. D. Allen, Jr., Milledgeville; Justin Andrews, Atlanta; J. T. Arnold, Parrott; C. C. Aven, Atlanta; E. G. Ballenger, Atlanta; B. T. Beasley, Atlanta; E. L. Bishop, Atlanta; M. L. Boyd, Atlanta; C. T. Brown, Atlanta; Murdock Eguen, Atlanta; Geo. F. Eubanks, Atlanta; E. F. Fincher, Jr., Atlanta; T. H. D. Griffiths, Savannah; Wm. H. Hailey, Atlanta; J. M. Henderson, Atlanta; Stacy C. Howell, Atlanta; Marion McH. Hull, Atlanta; I. W. Irvin, Albany; O. F. Keen, Macon; J. H. Kite, Decatur; Roy R. Kracke, Emory University; Clarence L. Laws, Atlanta; Mason I. Lowance, Atlanta; W. R. Lowe, Midville; Guy G. Lunsford, Atlanta; Q. A. Mulkey, Millen; J. H. Mull, Rome; W. C. McCarver, Vidette; Jack C. Norris, Atlanta; Philip H. Nippert, Atlanta; Thos B. Phinizy, Augusta; Marion C. Pruitt, Atlanta; M. Hines Roberts, Atlanta; T. L. Tidmore, Atlanta; Geo. A. Traylor, Augusta; John W. Turner, Atlanta; L. W. Willis, Bainbridge; R. B. Wilson, Atlanta; W. W. Young, Atlanta.

DR. WARREN A. COLEMAN, Eastman, sponsored a dermatologic clinic at the Coleman Sanatorium on December 6. The clinic was in direct charge of Dr. J. L. Kirby-Smith, Jacksonville, Florida. Dr. Coleman announces that this is the first of a series of quarterly clinics which will be held at the Sanatorium. The physicians of the surrounding territory were invited.

DR. ROBERT L. KENNEDY, Metter, spoke before a meeting of the Business and Professional Women's Club at Metter on *Syphilis and the Importance of Its Prevention*, November 22.

THE TERRELL COUNTY MEDICAL SOCIETY at a recent meeting approved a plan for maternal and child hygiene.

THE SOUTHERN SECTION of the American Laryngological, Rhinological and Otolological Society will meet at the Roosevelt Hotel, New Orleans, January 14. The meeting will be opened at 9:00 A. M. and papers will be presented by prominent otolaryngologists of the South.

DR. A. BURTON ANDERSON announces the opening of his offices for the practice of medicine and surgery at 217 Trust Company of Georgia Building, Atlanta.

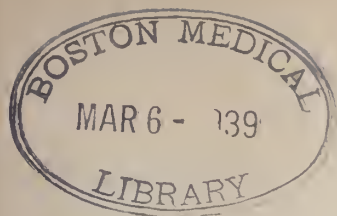
THE WARE COUNTY MEDICAL SOCIETY met at the Okfenokee Golf Club near Waycross on December 7. Dr. W. F. Reavis and Dr. L. W. Pierce were hosts to the members at supper. Officers for the ensuing year were elected. Mrs. H. B. Ritchie, commander of the Women's Field Army for the Control of Cancer, and Dr. Mosteller, State Department of Public Health, were guest speakers.

THE MACON MEDICAL SOCIETY of Bibb County met at Ridley Hall, Macon, December 6. Officers were elected for the ensuing year.

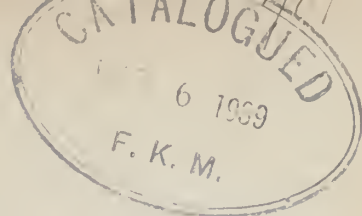
DR. R. F. WHEAT, Bainbridge, has been elected president of the State Board of Medical Examiners; Dr. Claude Griffin, Atlanta, vice-president.

THE REGULAR STAFF MEETING of the Crawford W. Long Memorial Hospital, Atlanta, was held on December 8. The following were on the program: Dr. H. N. Kraft, Dr. Archibald Smith, Dr. E. A. Bancker, Jr., Dr. H. M. S. Adams, Dr. Jeff L. Richardson, Dr. C. W. Daniels, Dr. M. K. Jenkins and Dr. W. W. Daniel.

The Medical College of Virginia, Richmond, celebrated Founders' Day marking the one hundred first anniversary of its founding on Thursday, December 1. Mr. Virginius Dabney, editor of the Richmond Times-Dispatch, spoke on "Medicine in a Changing World." The exercises were preceded by academic procession of visitors, faculty, and members of the student body.



Supplement
to



THE JOURNAL OF THE **MEDICAL ASSOCIATION OF GEORGIA**

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EDGAR D. SHANKS, M.D., *Editor*

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Atlanta, Ga., August 1, 1938.

*To All Members
The Medical Association of Georgia:*

At the next session of the Legislature an effort will be made to enact into law the Basic Science Bill, which is printed herein.

You are requested to read this bill, then take it to your prospective candidates, both senators and representatives, and ask them to support it.

One-third of the states now have such a law and unless Georgia does something to correct the present evils, our State will be overrun with cults.

Please return the questionnaire in this supplement to Dr. Edgar D. Shanks, Secretary-Treasurer, 478 Peachtree St., N. E., Atlanta.

Fraternally yours,
Committee on Public Policy and Legislation

S. A. Kirkland, M.D., Chairman

Edgar H. Greene, M.D.

J. L. Campbell, M.D.

Clarence L. Ayers, M.D.

S. T. R. Revell, M.D.

T. F. Abercrombie, M. D.

Edgar D. Shanks, M.D., Secretary-Treasurer

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Everyone understands the necessity of having a high school diploma before entering college. Few realize the equal necessity of a thorough training and knowledge in the basic principles of medical science before beginning the practice of the Healing Art.

Eighty-seven regular medical schools in the United States and Canada require all students to have a knowledge of the structure and function of every organ and part of the body; what chemical changes take place during the life cycle; what poisons are produced and how eliminated; the various forms of infection and their mode of transmission; and the changes that occur as the result of disease.

We regret that there are still certain groups which do not require these standards. Indeed, they refute many of them and would banish many of our preventive measures, which have lengthened the span of human life fifteen years during the present century and opened our Southern ports to commerce and travel the year round and made the great epidemics of the 19th century a thing of the past.

THE MEDICAL ASSOCIATION OF GEORGIA, now almost one hundred years old, respectfully calls your attention to the necessity of having better regulations for the coming generations of those who would practice any form of the Healing Art. We believe that everyone should be given the same instructions up to a certain point, then let them take the field of practice of their choice.

In view of the above facts, we are offering to the Legislature a bill which will establish a non-partisan board to determine the knowledge of prospective applicants for a license, enabling them to practice the Healing Art among our fellow citizens.

THE BASIC SCIENCE LAW

WHY DOES GEORGIA NEED A BASIC SCIENCE LAW?

Most of the States which have passed basic science laws have done so with the belief that the trend of healing regulation is in this direction, and that therefore the States which continue the older and less restricted means of regulation will increasingly become havens for low grade practitioners of all kinds. This possibility is of course applicable to Georgia.

WHAT ARE THE BASIC SCIENCES?

The term "basic sciences" is usually understood to include the subjects of anatomy, physiology, chemistry, bacteriology, and pathology, which are defined by Webster's dictionary as follows:

Anatomy—"The science of the structure of animals."

Physiology—"The study of the functions of the organs and parts during life."

Chemistry—"The science of the composition of substances."

Bacteriology—"The science which deals with bacteria."

Pathology—"The science treating of diseases, their nature, progress and results."

A BILL TO BE ENTITLED

An Act to establish a State Board of Examiners in the Basic Sciences underlying the practice of the healing arts, to provide for its organization and powers, to provide that certification by such board be a prerequisite to eligibility for examination for license to practice the healing arts and to define healing arts, and to repeal all laws and parts of laws in conflict with this Act.

SECTION 1. *Be it enacted by the General Assembly of Georgia*, and it is hereby enacted by authority of the same, that, from and after the passage of this Act, no person shall be eligible for examination or permitted to take an examination for a license to practice the healing arts or any branch thereof, or granted any such license, unless he has presented to the licensing board or officer empowered to issue such a license, a certificate of ability in anatomy, physiology, chemistry, bacteriology and pathology (hereinafter referred to as the basic sciences), issued by the State Board of Examiners in the Basic Sciences.

SECTION 2. *Be it further enacted* by the authority aforesaid that, for the purposes of this Act, any license authorizing the licentiate to offer or undertake to diagnose, treat, operate on or prescribe for any human pain, injury, disease, deformity or physical or mental condition is a license to practice the healing art.

SECTION 3. *Be it further enacted* by the authority aforesaid that, the Governor shall appoint a State Board of Examiners in the Basic Sciences (hereinafter referred to as the board), consisting of five members, who shall be appointed one for one year, one for two years, one for three years, one for four years and one for five years, from the dates of their respective appointments. On the expiration of the term of any member, the Governor shall fill the vacancy by appointment for the unexpired portion of the term. Every member shall serve until his successor is appointed and qualified. The members of the board shall be selected because of their knowledge of the basic sciences aforesaid. No member of the board shall be actively engaged in the practice of the healing arts or any branch thereof.

SECTION 4. *Be it further enacted* by the authority aforesaid that, the board shall meet and organize as soon as practicable after appointment. It shall have power to elect officers, to adopt a seal, and to make such rules as it deems expedient to carry this Act into effect. The board shall keep a record of its proceedings, which shall be prima facie evidence of all matters contained therein. Each member of the board shall receive ten dollars (\$10.00) per diem and actual expenses, when actively engaged in the discharge of his duties. The compensation of the members and other expenses of the board shall be paid out of the fees received from applicants.

SECTION 5. *Be it further enacted* by the authority aforesaid that, the fee for examination by the board shall be five dollars (\$5.00). The fee for re-examination within any twelve-month period as hereinafter provided shall be three dollars (\$3.00), but the fee for re-examination after the expiration of twelve months shall be the same as the original fee. The fee for the issue of a certificate by authority of reciprocity, on the basis of qualifications as determined by the proper agency of some other state, shall be ten dollars (\$10.00). All fees shall be paid to the board by the applicants at the time of filing application. The treasurer shall pay out of such fund all expenses incurred by the board, on vouchers signed by the president and the secretary of the board.

SECTION 6. *Be it further enacted* by the authority aforesaid that, the board shall conduct examinations at such times and places as it deems best. Every applicant, except as hereinafter provided, shall be examined to determine his knowledge, ability and skill in the basic sciences. The examination shall be conducted in writing, but may be supplemented by an oral examination, and if practicable shall be supplemented by examination in the laboratory, dissecting room and dispensary. If the applicant receives a credit of an average of seventy-five per cent (75%) or more in each of the basic sciences, he shall be considered as having passed the examination.

SECTION 7. *Be it further enacted* by the authority aforesaid that, no certificate shall be issued by the State Board of Examiners in the Basic Sciences unless the person applying for a certificate submits evidence satisfactory to the board: (1) that he is a person of good moral character; (2) that he was graduated by an accredited high school or school of similar grade, or possessed educational qualifications equivalent to those required for graduation by such an accredited high school, before he began the study of the healing arts; and (3) that he has a comprehensive knowledge of the basic sciences as shown by passing the examination given by the board, as by this Act required.

SECTION 8. *Be it further enacted* by the authority aforesaid that, the State Board of Examiners in the Basic Sciences may in its discretion waive the examination required by Section 7, when proof satisfactory to the board is submitted, showing that the applicant has passed the examination in the basic sciences before a board of examiners in the basic sciences or a board authorized to issue licenses to practice the healing art, in another state, when the requirements of that state are, in the opinion of the board, not less than those provided by this Act. The provisions of this section shall apply only to examinations conducted by the boards or officers of states that grant like exemption from examination in the basic sciences to persons granted certificates by the board of this State.

SECTION 9. *Be it further enacted* by the authority aforesaid that, any applicant who has been denied examination by the board may within thirty days after such denial appeal to the superior court of the county in which the board has its office; and such court shall on such appeal inquire into the cause of such denial. If in the opinion of the court admission to examination was refused without just cause, the court may order the board to examine the applicant. Notice of an appeal from the denial of the board of the right to examination may be served on any member of the board by leaving with him or with any adult member of his staff or household, at his usual place of business or abode, an attested copy thereof within thirty days after said board has notified the applicant of its refusal to examine him. Hearings of such appeal shall proceed in accordance with such rules as the superior court may determine.

SECTION 10. *Be it further enacted* by the authority aforesaid that, any basic sciences certificate and any license to practice the healing art or any branch thereof which is issued contrary to this Act shall be void. A board which has issued a license by virtue of a void basic science certificate shall revoke or cancel such license. The procedure in such revocation or cancellation shall be in accordance with the provisions of the act under which such license was issued, for the cancellation or revocation of licenses generally. The certificate issued to any person by the State Board of Examiners in the Basic Sciences shall be automatically revoked by the revocation of any license issued to such person to practice the healing art or any branch thereof.

SECTION 11. *Be it further enacted* by the authority aforesaid that, any person who shall practice the healing art or any branch thereof without having obtained a valid certificate from the State Board of Examiners in the Basic Sciences, except as otherwise authorized by this Act, shall be guilty of a misdemeanor, and upon conviction, be punished as prescribed in Section 1065 of the Penal Code of Georgia of 1910.

SECTION 12. *Be it further enacted* by the authority aforesaid, that any person who shall obtain or attempt to obtain a basic science certificate by any dishonest or fraudulent means, or who shall forge, counterfeit or fraudulently alter any such certificate, shall be guilty of a misdemeanor, and upon conviction, be punished as prescribed in Section 1065 of the Penal Code of Georgia of 1910.

SECTION 13. *Be it further enacted* by the authority aforesaid, that any person who shall obtain or attempt to obtain a license to practice the healing art or any branch thereof from any board authorized to issue any such license, without presenting to said licensing board a valid certificate issued by the State Board of Examiners in the Basic Sciences, as in this Act required, shall be guilty of a misdemeanor, and upon conviction, be punished as prescribed in Section 1065 of the Penal Code of Georgia of 1910.

SECTION 14. *Be it further enacted* by the authority aforesaid, that any person who knowingly issues or participates in the issue of a license to practice the healing art or any branch thereof to any person who has not presented to the licensing board a valid certificate from the State Board of Examiners in the Basic Sciences, or any person who has presented to such licensing board any such certificate obtained by dishonesty or fraud, or any forged or counterfeit certificate, shall be guilty of a misdemeanor, and upon conviction, be punished as prescribed in Section 1065 of the Penal Code of Georgia of 1910.

SECTION 15. *Be it further enacted* by the authority aforesaid that, any money paid out by any person as compensation for services rendered in the practice of the healing art or any branch thereof to any person not validly licensed to practice such healing art or branch, when the payor did not know that such person was not validly licensed so to practice, may be recovered by the person who has paid such money by a suit instituted within two years from the date when such fee or compensation was paid.

SECTION 16. *Be it further enacted* by the authority aforesaid that, this Act shall not be construed as applying to dentists, nurses, midwives, optometrists or Christian Science practitioners, practicing within the limits of their respective callings; nor to other persons licensed to practice the healing art or any branch thereof in this state when this Act takes effect; nor to persons specifically permitted by law to practice without licenses, practicing within the limits of the privileges thus granted to them.

SECTION 17. *Be it further enacted* by the authority aforesaid that, no provision of this Act shall be construed as repealing any statutory provision now in force at the time of its passage with reference to the requirements governing the issuing of licenses to practice the healing art or any branch thereof; but any board authorized to issue licenses to practice the healing art or any branch thereof may in its discretion accept certificates issued by the State Board of Examiners in the Basic Sciences in lieu of examining applicants in such sciences or may continue to examine applicants in such sciences as heretofore. The unconstitutionality of any part of this Act shall not be construed as invalidating any other part thereof.

SECTION 18. *Be it further enacted* by the authority aforesaid that, all laws and parts of laws in conflict with this Act are hereby repealed.

(Prepared by the Committee on Public Policy and Legislation of the MEDICAL ASSOCIATION OF GEORGIA. The Association, organized in 1849, is composed of the white physicians of the State. For further information ask your family doctor.)

Dr. Edgar D. Shanks, Secretary-Treasurer,
The Medical Association of Georgia,
478 Peachtree Street, N. E.,
Atlanta, Georgia.

Dear Doctor Shanks:

I have read the Basic Science Bill submitted to me by Dr.
of and I promise my support of this measure if, and
when, I am elected to serve in the General Assembly of the State of Georgia.

Very truly yours,

(Signed)



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